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6 March 1986

Worldwide Report

TELECOMMUNICATIONS POLICY, RESEARCH, AND DEVELOPMENT

FBIS FOREIGN BROADCAST INFORMATION SERVICE

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HONG KONG

CHINESE COMPUTER TERMINAL INTRODUCED IN HONG KONG

Hong Kong HONGKONG STANDARD in English 7 Jan 86 p 5

[Text] AS A college student in England in the 1950s, Professor Loh Shiu-Chang was forbidden to even look at the school's computer because he was a foreigner. Computers were considered "top secret."

This experience led Dr Loh to years of study, culminating in the creation of a computer that writes Chinese quicker and easier than those now in existence.

The Chinese Information Terminal (CIT), manufactured by Elec and Eltec Company Limited of Hongkong, was unveiled yesterday at the Excelsior Hotel.

There are many new features to this terminal, Dr Loh said.

It writes Chinese with a Chinese character keyboard, rather than one that is converted from an English-language keyboard.

It has "intelligence," he said, the system will not print an inaccurate character. It can type much faster than systems now used, without making mistakes, and it is very easy to learn.

"Anything you can do in English you can do in Chinese. You can do it cheaper and faster than English," Dr Loh said.

Called officially the CIT 238, the system processes Chinese the way it is written. It is called 238 for the 238 component keys in the keyboard.

In a speech to computer buffs, editors of computer magazines and local media, Dr Loh said his system is "friendlier" to Chinese users than other machines that write Chinese, meaning that it is easier to operate.

He sees its main function as an educational tool.

"Now, children get bored in school learning one Chinese character at a time, they can learn by association, how Chinese characters were derived from," he said.

The machine draws horizontal and vertical lines to create the characters. "Now, you can realise the beauty of Chinese characters when you use the computer," Dr Loh said.

The CIT 238 writes French, Arabic, Russian and Spanish. It can also make graphic print-outs.

The keyboard is larger than the English-language keyboard and is arranged in five different zones.

The word processor is available as an add-on terminal.

Dr Loh, head of the Department of Computer Science at the Chinese University of Hongkong, sold the patent for the system to Elec and Eltek.

Dr Thomas Leung of Elec and Eltek developed the software for the product.

It handles traditional and simplified Chinese as well as English, making the system an excellent tool for Hongkong and Chinese businessmen, said Mr David So, chairman of Elec and Eltek.

"With China's open-door policy towards foreign trade and Hongkong maintaining its position as an international financial and trading centre, English will continue to be an important medium of communication," Mr So said.

He believes the new system will help to facilitate communication between Hongkong and China for education, industry and trade purposes.

Marketing has not yet begun, but marketing manager for Elec and Elektra, Mr C. K. Wong said he will travel to Guangdong and Beijing on a marketing campaign later this month. He has not set a price for the system.

"I expect a huge demand for these," Mr Wong said.

/13104
CSO: 5550/0085

POLAND

U.S., NATO MILITARY COMMUNICATIONS SATELLITES PROFILED

Warsaw ASTRONAUTYKA in Polish No 3, Mar 85 pp 21-23

[Article by (L): "Man-made Military Satellites;" signed to press July 1985]

[Text] Experiments with satellites intended for purposes of military communications have been carried out since about 1960. In the United States, "Score" and "Courier-1.B" satellites were used for these purposes. Subsequently, military communications tests using "Syncom-2" and -3 satellites were undertaken. Both structures, by the way, were put to good use for communications purposes with the invading forces of the United States in Vietnam. Later, special military telecommunications satellites, or, to be more exact, systems of this type of communications, came into being. The IDCSP (Initial Defense Communications Satellite Program) satellite system, later changed into the DSCS (Defense Satellite Communications Program) system, is among the more well known.

Satellite communications in the United States are directed by the U.S. Army Satellite Communications Agency, or Satcom. The satellite system makes it possible to maintain communication between the Pentagon in the United States and American bases scattered in several regions of the globe.

The satellites launched in the years 1966-1968 (26 space structures) set up systems which included ground stations in their composition. One of the systems was designated "Program 572"; the other, "Program 777." The first satellites weighing about 46 kilograms were launched into equatorial orbits "serially" (8 units) through the use of one load-bearing rocket. In carrying out the second program larger satellites--weighing about 555 kilograms--were used; they were placed in the region of the Pacific and Atlantic Oceans.

Military ground stations are divided into permanent structures with an antenna 18.3 meters in diameter and movable structures for which rail or air transport is used. Stations of this type have antennas 12 meters in diameter. A special station for air transport has an antenna 6 meters in diameter. Military ships also have at their disposal stations equipped with relatively small antennas 1.8 meters in diameter.

Upon looking over the published specifications of structures launched into a geostat[illegible] orbit, one can observe that some of them do not have a name or a given designation at all. Those are truly secret structures. It is not possible, of course, with today's technology, to hide the dates, and even the satellite's place of take-off or its trajectory in space, however it is difficult to discover what such a satellite is doing.

The TAC-COMSAT, satellite intended for aiding military actions in southeast Asia, was launched in 1969. The satellite weighed 713 kilograms, was 2.4 meters in diameter, and had a cylindrical framework of 6.1 meters in height. It revolved around the earth in a geostationary orbit over the Pacific. It was equipped with five helicoid beam antennas capable of transmitting signals to small ground stations, which used antennas less than half a meter in diameter. Thanks to the satellite, communications to the company level were assured. Both the pilot of a combat helicopter as well as each soldier with a knapsack radio station could receive signals. After the end of military actions in Vietnam the satellite was relegated to the NATO nations.

In addition to the American system, the American-British system named "Skynet", intended basically for maintaining communications between the systems of the United States and those of NATO, is also well known. The EAST (Experimental Army Satellite Tactical) communications system, intended for researching the possibility of using satellites in communications at the operational-tactical level, is also experimental. Tests have been conducted with the aid of the LES-5 and LES-6 satellites. An agreement with regard to experiments on this type of satellites was signed with the member nations of NATO in 1967.

The building of ground stations for another military communications system, this time connected with the activity of NATO, was completed in 1972. The stations were equipped with antennas 12.8 meters in diameter. The purpose was to assure communications between NATO and the governments of the member nations. A dozen or so ground stations were built. Two of them--with the American DSCS system--are located in the seat of NATO: in Casteau (Belgium) and in Naples (Italy). These are mobile stations with antennas 4.5 meters in diameter, operating in a frequency range of 7÷9 gigahertz and assuring two-way telephonic communications (on one channel), coded telephonic communications (on four channels), and telegraph communications (on 64 channels).

On 20 March 1970 the first NATO-1 (1970-21A) satellite was put into orbit around the earth at a height of 40,807 meters at the perigee and 42,164 meters at the apogee; it weighed 242.67 kilograms at take-off and 130 kilograms in orbit. The satellite assured telephonic, telegraph and teletype communications.

On 26 April 1976 a structure of the new generation--the NATO-3.A satellite--was launched into orbit around the earth. It was lifted from Cape Canaveral by the American Delta rocket. The next two satellites of the NATO-3 series were launched into geostationary orbits by 1979. They replaced the satellites of the NATO-2 series. They were built in the American plants of Aeronutronic-Ford for NATO needs, or more precisely, for the integrated telecommunications network of that organization. This network will work together with the American DSCS-2 and the English "Skynet" system.

The satellites of the NATO-3 series operate on a band of 7÷9 gigahertz (the so-called band X) and are about three times larger than the earlier NATO structures. At take-off they weigh 673 kilograms; in orbit, 376 kilograms. The engine enables the structure to be localized in orbit; it works on solid rocket propellant. The life span of the new satellites is about 7 years (the operation time of the earlier ones did not exceed 3 years); the payload of these structures is also larger: they transmit telephonic, telegraph, and teletype signals and transmit data very quickly on a band with range of 152 megahertz.

Each NATO-3 satellite has three channels: two of emission (7.25÷7.75), of which one ranges over Central Europe and the Mediterranean basin, and the second, over all the NATO countries with North America, Africa and the Middle East; and one receiving channel (7 8.4 gigahertz) which makes it possible for signals to be received from various parts of the world.

Stationary and mobile ground stations are used to work with the satellites. The permanent stations have antennas 12.5 meters in diameter, and the mobile stations have antennas 6 meters in diameter (on ships) and 1.8 meters in diameter on ground vehicles functioning as tactical communications stations. Stationary stations with paraboloidal antennas of the Cassegrain type are shielded from atmospheric waves, and also from unwanted observation, in circular domes of man-made material (the diameter of the domes is 20.7 meters).

Among the most well known NATO-2 stations one can include those in: Norfolk Virginia, United States), Ottawa (Canada), Casteau (Belgium), London (Great Britain), the Hague (Holland), Naples (Italy), as well as the Federal Republic of Germany, Denmark, Norway, Greece, Turkey and Portugal. Iceland and Luxemburg, in spite of the fact that they are members of the NATO pact, did not have ground stations of the NATO-2 system; and France, which does not participate in the formation of the so-called integrated net, does not have NATO ground stations either (it withdrew from the NATO pace in 1966-1967).

Satellites of the NATO-3 series have the classical cylindrical shape of 2.18 meters in diameter and are 3.09 meters in height. Solar battery cells (20,000 units) are set on the walls of the cylindric dome. In the first phase of operation of the deck installations they yield a combined power of 538 watts, but in the last period (after 7 years), 421 watts. A stabilized satellite is rotative (90 rotations per minute). Four horizon sensing devices which operate in infra-red radiation, two solar sensing devices, and correctional rocket microengines with a pull of 23 newtons, operating on hydrazine, attend to proper position in orbit. The fuel reserve is 27.7 kilograms, which should suffice for 7 years, considering that the consumption of fuel is minimal.

The above mentioned experimental satellites of the LES (Lincoln Experimental Satellite--the Lincoln Laboratory in the Massachusetts Institute of Technology) series had on board (LES-8 and 9) nuclear generators (with plutonium--238) instead of the solar batteries commonly used up to that time. The nuclear generator, enclosed in a container 400 mm in diameter and 580 mm in height, had an initial power of 150 watts, and after 5 years of operation, of 130 watts. These satellites weighed 450 kilograms and their entire length was about 3 meters.

In the opinion of American specialists, satellites of the LES series are resistant to any kind of disturbance, can transmit signals from satellite to satellite, and are capable of receiving signals from each ground station, whether military or civilian, in each nation. Communications between satellites are conducted on 225÷400 megahertz frequencies. Communications with the mobile stations, which use antennas of relatively small dimensions, are conducted on these same frequencies.

The "Lasercom" system, enabling a transmission of one million beats per second, existed in the United States in 1978. It served for satellite--ground--airplane communications. Developed in the Mc Donnel-Douglas plants (through a contract made with the U.S. Air Force in 1973) and tested at the White Sands military base, the "Lasercom" system is supposed to be resistant to nuclear arms action and can be used for detecting and overpowering military satellites and for conducting research on the earth's atmosphere. Satellites with the "Lasercom" system are in extremely elongated orbits.

Information about a man-made ground--submarine satellite, a system of en route communication projected by the U.S. Navy, appeared that same year. In the opinion of military experts, a laser will be employed in this system. The project designated Seafarer ELF was used after a series of laboratory tests and prolonged practical experiments. The interest is in communications with a submerged vessel, which is not at all an easy task, and in sending information at great speed. In the initial tests, done between a satellite and a vessel moving on the surface of the sea, they were able to send information at a speed of about 100 beats per second, an achievement which could not satisfy specialists used to the markedly greater speeds of transmitting information accomplished through traditional systems.

As far as communications with submarines (the most difficult, and still unresolved, telecommunications problem), it is worth noting that in the Naval Research Laboratory (Washington) studies are being conducted on the use of the neutrino for communications precisely with submerged submarines.

The neutrino is a stable elementary particle with no electrical charge and with a static mass most likely equal to zero. It easily penetrates through our entire planet, and in a vacuum it reaches a speed close to the speed of light. If a pencil beam of neutrinos can be produced on an accelerator, it will reach each point of the globe, as well as a submarine submerged even at a significant depth. Thanks to the neutrino, which penetrates everywhere, an appropriate, completely reliable and fast system could thus be built. This is a matter for the future, however, since up to now they have not advanced beyond theoretical considerations.

In addition to communications satellites in earth orbits, they are launching structures intended for navigation needs and serving all the military services, especially the navy, which has at its disposal submarines equipped with rocket missiles. In general, it would not be possible for these types of vessels to engage in military action without very exact navigational information and without the time service of a satellite aided by atomic models.

The military man-made geodesic satellites also have important functions. The first experiments with structures of this type resulted in the ANNA (1962), "Starflash" (1964) and SECOR satellites, achieved in the United States.

Also known are systems of military satellites intended for reconnaissance purposes, including meteorological and teledetection satellites.

12929/9451
CSO: 5500/3001

ARGENTINA

DISPUTE GROWS OVER RADIO STATION OWNERSHIP

PY102147 Buenos Aires BUENOS AIRES HERALD in English 10 Feb 86 p 5

[Text] (NA-DYN)--Neuquen culture director Reinaldo Labrin called "virulent" the attitude of Federal Broadcasting Committee (COMFER) trustee Pedro Sanchez with respect to the province's law declaring all radio stations property of the provincial government.

Sanchez called the law "an attempt at invasion" of the committee's authority, adding that "these clear uprisings against federal authority may demand extreme remedies". The Supreme Court issued a restraining order on the Neuquen law last month.

Meanwhile, public information officials from nine Peronist-governed provinces plus Neuquen met in Rio Gallegos, Santa Cruz, on Friday and issued a statement insisting on the provinces' right to "organize, gurantee, and exercise radio and television broadcasting in their respective territories".

COMFER was also involved in another issue last week when it criticized a court for asking COMFER to consider banning tobacco advertising on television. A government source on Friday described COMFER's decision as "unconsulted".

COMFER had argued on Thursday that apart from the fact such a ban would be unconstitutional, it is not up to the committee to decide on the issue.

Judge Mauricio Obarrio on Wednesday asked COMFER to ban cigarette advertising regulations clearly prohibit "advertising procedures that endanger the health, psychic stability or moral integrity" of the population. The judge cited "truly decisive" studies that prove cigarette smoking contributes to heart trouble as well as cancer.

But COMFER warned it would "immediately" appeal a final decision banning cigarette advertising, which it believes would violate the national broadcasting law.

/9738
CSO: 5500/2026

BRIEFS

INTELSAT PLANS--Nassau, 12 Feb (CANA)--The Bahamas Telecommunications Corporation (Batelco) has commissioned construction of a U.S. 9 million dollar Intelsat Earth station that will provide direct satellite communication between the Bahamas and other countries, including the United States, Canada, the Caribbean and Bermuda. The station, scheduled for completion by spring of 1987, will be built by Massachusetts-based GTE International Systems Corporation, a world leader in the design and implementation of turnkey satellite communication systems. Robert Bartlett, general manager of Batelco, said the satellite link would greatly benefit companies doing international business from the Bahamas, as well as increase the number of television channels available. This project is in keeping with Batelco's mission to provide a complete telecommunications service consistent with the needs of the country, he added. [Excerpt] [Bridgetown CANA in English 1715 GMT 12 Feb 86 FL] /8309

CSO: 5540/40

BRAZIL

INFORMATICS SECTOR RECORDS OVER 30 PERCENT GROWTH IN 1985

Sao Paulo O ESTADO DE SAO PAULO in Portuguese 22 Dec 86 p 46

[Text] The informatics sector will close the year with a growth of at least 30 percent over 1984 and the forecast for next year is an expansion of a minimum of 35 percent. According to the president of the Brazilian Association of the Computer and Peripherals Industry (ABICOMP), Antonio Luis Mesquita, sales by the 85 companies belonging to that organization, as of September, were equivalent to 170 million National Treasury Bonds (ORTN's), which represents 30 percent more than the same period in 1984. Total sales predictions for the year vary from 195 to 210 million ORTN's.

With this growth, the informatics industry employed an additional 2,000 employees, 3,000 of them high-level personnel. The sector generates a total of 25,000 jobs today, including 10,115 university graduates.

According to Mesquita, the reheating of the economy is an indicator of the greater growth rates in 1986, at the same time that the capitalization of the informatics companies via the stock market "is a trend that is tending to broaden greatly and represents the beginning of the maturing of the industries in the sector." The modernization of the Brazilian industrial park opens up an excellent market for the informatics companies and Mesquita sees the possibility of an "integrated development among the informatics industries and the other sectors."

ABICOMP data indicate that the nationalization percentage of the equipment exceeded 85 percent during the year. In Mesquita's opinion, 1985 was characterized by the growing supply of 16-bit equipment at competitive prices and the emergence of the superminicomputer, although only a small number of these were installed. In the area of peripherals, he gave special prominence to the Winchester disk.

12929/8711
CSO: 5500/2016

BRIEFS

LATIN REQUESTS FOR SATELLITE USE--The Brazilian Telecommunications Company (EMBRATEL) has already received requests from Peru and other South American countries for the use of Brasilsat, the Brazilian satellite in use since April of this year, which cost about $300 million. According to Pedro Jorge Castelo Branco, president of EMBRATEL, Brasilsat is comprised of 24 service bands ("transponders") nine of which are in operation. Last week, two more were assigned to the Armed Forces by agreement. Castelo Branco said also that he is negotiating two other bands with the Ministry of Education and Culture, leaving only two available for television transmitters. "The directive setting the new rates for the TV's will be released by the end of this month," declared Castelo Branco. Yesterday morning, the president of EMBRATEL participated in the telecommunications panel promoted by the national Telematics Magazine (RNT) in Macksoud Plaza, 150 Campinas Grove, in the center of Sao Paulo. On that occasion he revealed that the leasing of circuits showed a 12 percent increase this year, while the volume of data communications showed an increase of 80 percent, mainly in the area of texts. The increase of television traffic was 12.6 percent, while telex service exceeded 63,000 terminals in the last 7 months. [Text] [Sao Paulo FOLHA DE SAO PAULO in Portuguese 10 Dec 85 p 29]

12929/8711
CSO: 5500/2016

INDEPENDENT BROADCAST UNIT WINS GOVERNMENT APPROVAL

House Action

Kingston THE DAILY GLEANER in English 23 Jan 86 pp 1, 3

[Text]

THE BILL AMENDING the Broadcasting and Radio Re-Diffusion Act to provide for an independent Broadcasting Commissionwas passed without division by the House of Representatives yesterday.

Two amendments were made as the Bill passed through committee stage.The first amendment allows that in cases where a licensee broadcasts inaccurate information, the Commission may direct that licenceeto broadcast: (i) an apology; or (ii) if the Commission thinks fit, a correction of the inaccuracy, in such form as the Commission may think fit.

It also allows the Commission to direct the licenseeto afford to any person prejudiced by the broadcast the opportunity of broadcasting a reply for the purposeof rebutting any information alleged to be inaccurate; or, direct the licensee to bothboth apologise and carrya correction of the inaccuracy.

The second amendment stated as follows: "Where an offence against the regulations is committed by a body corporate then, notwithstanding and without prejudice to the liability of that body, any person who at the time of such commission was a director, general manager, secretary or other similar officer of that body, or was purportingto act in any such capacity, shall be liable to be prosecuted as if he had personally committed that offence, and shall be liable to the like conviction and punishment as if he had personally been guilty of that offence unless the **Court finds on a balance of probability that**

(a) the contravention was committed without his consent or connivance and,

(b) he exercised all such diligence to prevent the commission of the offence as he ought to have exercised, having regard to the nature of his functions in that capacity and to all the circumstances."

Mr. E.K. Powell (North-East St.Catherine) who had opposed the Bill last week did not vote against it. This was brought to the attention of the House by the Hon. WinstonSpaulding, Attorney General and Minister of National Security and Justice.

Mr. Powell: "I did not vote for it: Idid not vote against it."

The Speaker, Hon. Alva Ross: "The matter was put before the House and you did not oppose it."

The Prime Minister, the Rt. Hon. Edward Seaga, who piloted the Bill, said thatby bringing it to Parliament, the Government was not trying to take unto itself power it did not already have, but was voluntarily yielding power and subjecting Government abuse of the public media to the authority of an impartial Commission which would be appointed by the Governor General.

Mr. Seaga: "We are yielding power that we already have. We are voluntarily giving up this to discharge a commitment which we gave to the nation, that we would want to establish for generations to come an impartial system so that no other generation would ever undergo the partiality which we were faced with when we were in opposition."

He said that a novel feature had been added to ensure that the Government did not misuse its own power: that those who had the "vast and awesome" power of being able to broadcast on the media such material as they considered fit, should do so in a manner to ensure accuracy.

"This is not a qualitative judgment, it is not a quantitative judgment, it is not a personal or subjective judgment; accuracy is a matter of fact and therefore can be established.

"We have not said that the Broadcasting Commission should determine whether the media has used its power to slant or whether, by commission or omission, to show bias, because that is a qualitative judgment which will often depend upon the point of view which those who sit in judgment will take. What we have said is that where facts are used, or where statements are made, they should be accurate. And, there isn't anybody in this whole nation who could stand up and defend a position that we should not seek accuracy, or that we should leave the media free to be inaccurate if they wish."

In response to a question raised last week by Mr. Powell that there had been no report from the Broadcasting Authority, Mr. Seaga pointed out that the Authority had become defunct under the previous Government in 1977, and the present Government had not sought to resurrect it, because it had the intention of changing its structure so that when it was revived it would not be a technical commission, but a commission which had technical responsibilities and obligations and powers as well as one which would deal with matters such as accuracy.

In his contribution, Mr. Spaulding said he was appealing to people not to seek to elevate private arguments to the level of public principles, because the public were not fools.

He said that he endorsed and supported the Bill and regarded it as an important piece of legislation and a further development of the Government's pursuance of the concept of equal rights and justice and fairplay.

"I regard it not as a Bill standing in isolation, but one measure which is part of a whole series of important measures which have been undertaken by Government, on the basis that irrespective of its faults this administration will leave behind it a blazing trail of outstanding record in the area of human rights and democracy.

"This particular measure may evolve over a period of time, it may be modified, but I cannot see what area there is that one should have any particular contentions about."

He urged Mr. Powell to support the Bill because whatever arguments he might have about broader things, he was strong enough to follow the dictate of his conscience and within the Bill there was no principle with which any Member should quarrel.

He said that a system was being set up to ensure that as long as constitutional government reigned in Jamaica, that what had happened in the past could not happen again.

The debate on the Bill commenced on December 17 but was deferred to this year as the House took its Christmas break.

Public Opinion on Seaga Policy

Kingston THE DAILY GLEANER in English 18 Jan 86 p 3

[Text] Opinion Poll 6:

The December 1985 Stone Poll was carried out by Professor Carl Stone under the sponsorship of the Daily Gleaner's management over the period December 18-21, 1985.

The sample includes 1,000 persons selected from 44 areas and communities islandwide.

The estimated total sample error (including field and sampling error) is + or —3%.

The survey was carried out by 22 interviewers.

The December 1985 Stone Poll found that most Jamaicans were of the view that the country needed some competition in the area of television media and that the government's media policy did not go far enough in providing for such an outcome.

The Poll found that these were the main reasons advanced by the public in its rejection of Prime Minister Seaga's statement that over his dead body would the Daily Gleaner receive a licence to run a television station.

24% agreed with Mr. Seaga's statement while a large 71% majority disagreed.

Many expressed the view that both the Gleaner Company and RJR deserved favourable consideration with respect to the operation of a T.V. licence, but the predominant view was that any company with the required resources should be able to set up competing television broadcasting here to provide the people with an alternative to JBC T.V.

QUESTION:

At a recent JLP conference Prime Minister Seaga repeated his government's media policy and said that over his dead body would the Gleaner get a T.V. licence. Do you support the government's media policy? Why?

ANSWERS:

Agree with Mr. Seaga's position	**(24%)**
Disagree with Mr. Seaga's position	**(71%)**
Don't know	**(5%)**

/9274
CSO: 3298/300

TRINIDAD AND TOBAGO

POLICY SETTING TIME LIMITS FOR POLITICAL TELECASTS RENEWED

Port-of-Spain TRINIDAD GUARDIAN in English 25 Jan 86 p 1

[Text] TRINIDAD and Tobago Television (TTT) has decided to re-introduce, with immediate effect, its policy on political broadcasting in which the ruling People's National Movement (PNM) will have more allotted time than the Opposition parties.

This undertaking was given yesterday by TTT's lawyer Martin Daly, S.C., before the start of an appeal by TTT and the Attorney General against the judgment of Mr. Justice Deyalsingh who ruled in favour of Surujrattan Rambachan, Chairman of the St. Patrick County Council.

Mr Daly told the Court of Appeal, which comprised Chief Justice Clinton Bernard, Mr. Justice Persaud and Mr. Justice Narine, that TTT will re-introduce with immediate effect the entire policy which the station made in 1982.

Counsel said the television station would continue with the policy pending the determination of the appeal or until further order. The appeal is listed for hearing in June.

Appearing for TTT were Mr. Daly and Lynette Seebaran; Michael de la Bastide S.C., Deputy Solicitor General Clive Beckles and State Counsel Jacqueline Quamina-Cherrie appeared for the Attorney General; while Karl Hudson-Phillips, S.C., and Olric Dougan represented Rambachan.

Mr. Daly said TTT would re-introduce its broadcast policy in which the PNM would have seven periods of ten minutes each; the Organisation for National Reconstruction three periods of ten minutes each and the United Labour Front (ULF) two periods of ten minutes each.

The Board of TTT and the National Broadcasting Service decided in February 1980 to allocate free broadcasting time to the political parties on the basis of the 1981 General Elections in which the PNM won 26 of the 36 contested seats.

Although the ULF won eight of the 10 remaining seats, the ONR collected more votes at the polls.

Mr Rambachan had filed a motion on December 23, 1982 seeking a declaration that the refusal on December 21, 1982 by TTT to show a pre-recorded speech constituted a contravention in relation to his right to equality of treatment from a public authority.

/9274
CSO: 3298/303

ITI PLANS FOR HIGH TECH PRODUCTION DESCRIBED

Calcutta THE TELEGRAPH in English 10 Jan 86 p 9

[Text] The department of telecommunications is poised to enter the arena of fibre optics technology in two years time, Mr K.P.P. Nambiar, chairman and managing director of Indian Telephone Industries Ltd (ITI) said here today.

Addressing newsmen in connection with the public issue of ITI bonds, Mr Nambiar said that Hindustan Cables and the Madhya Pradesh State Electronic Corporation would be undertaking the manufacture of the fibre optic cables while ITI would manufacture the equipment required to introduce this sophisticated technology in the country. He added that the choice of collaborators for the manufacture of optic fibre equipment with ITI would be finalised by a committee in three months time.

Of the Rs 610 crores that is required for ITI's expansion and modernisation programmes and to manufacture hi-tech communications equipments, the total capital outlay by the government in the Seventh Plan is Rs 335 crores. This would raise the production level to 46.50 lakh telephones and 32.65 lakh lines of switching equipment. ITI will be the first public sector enterprise to mobilise Rs 100 crores for its investment plans through the issue of 14 per cent secured non-convertible bonds. As for the balance, Rs 275 crores Mr Nambirar said the ITI would issue bonds again later at an appropriate time.

With an investment of Rs 610 crores a sales turnover at the end of the Seventh Plan of Rs 1000 crores per annum can be expected, he said. The department of telecommunication intends to have complete digitalisation by the end of the Seventh Plan, he added.

The telephone density in India is only four per 1000, which is only one-tenth of that of developing countries like Mexico and Brazil. While the world average of telephone density is 19.1 per cent, India hopes to achieve a target of 12 per cent in urban and two per cent in rural areas by the end of the decade, said Mr Nambiar. This target calls for a production figure which is eight times what it is now. As it is not possible for ITI to fulfil this target alone, he welcomed the government's decision to involve the private sector in this sphere. He denied that there would be competition between the ITI and the private sector regarding the manufacture of telecommunication equipment asserting that private sector participation would help in coping with the heavy demand. Even so he pointed out that the centre had allowed the private sector to manufacture terminal equipment like telephones, telex and teleprinters and rural exchanges.

Out of the 10,000,000 bonds, 5,00,000 would be reserved for private placement with UTI, LIC and GIC. The remaining 5,00,000 are being offerd to the public.

There will be no tax deduction at source and investment in bonds will be exempt from wealth tax without any ceiling. Investors have the choice of receiving interest every six months or allow interest to be compounded under the cumulative scheme, said Mr Nambiar.

Out of the approved outlay of Rs 335 crores in the Seventh Plan for the company, approximately Rs 25.35 crores is expected to be invested in plant and machinery for manufacture of components and assembly and testing of telecommunication equipment, including switching and transmission equipment and telephones.

With CIT-Alcatel Thomson of France, it has collaborated to manufacture state-of-art proven electronic switching systems of 500,000 lines per year for direct exchange units at its Mankapur unit and 30,000 lines per year of trunk automatic exchanges at its Palghat unit. In the field of telephone instruments technology, an agreement has been entered into with Industries Face Standard of Italy to manufacture 500,000 rotary and 500,000 electornic push button type telephones at the company's units at Bangalore and Naini.

The company has entered into technical collaboration with Kokusai Electric Company of Japan for the manufacture of multi-access rural radio system.

/13104
CSO: 5550/0081

PLANS FOR SECOND GENERATION SATELLITES TOLD

Calcutta THE TELEGRAPH in English 14 Jan 86 p 4

[Text]

New Delhi, Jan. 13: India proposes to launch its second generation satellites, Insat-II, around the end of the Seventh Plan, the Union minister for communications, Mr Ram Niwas Mirdha, said here today.

The new series will be aimed at augmenting digital communication, television and mateorological networks throughout the country, he said. However, before that the next satellite, Insat IC would be launched this year with a total capacity of satellite circuit/television transponders of about 6,000 CCTS.

Mr Mirdha was inaugurating the first regional seminar on cooperation in telecommunications under the integrated programme of action of the South Asian Association for Regional Cooperation. The seminar, organised by the advanced level telecom training centre, is being attended by participants from Pakistan, Bhutan, Sri Lanka, The Maldives and Nepal besides India.

Mr Mirdha said India intended to establish about 80 additional fixed earth stations and 20 transportable stations during the Seventh Plan. It launched its first satellite communication with the Insat-I series in 1982 and has successfully implemented the Satellite communication programme through Insat-IB so far. There are 29 fixed earth stations and four transportable stations with 4,000 circuits working through satellites in the country today, he said.

With the experience now gained in planning, engineering, operation and maintenance of such a system, Mr Mirdha said these benefits could be shared with other member-countries of SAARC through cooperation in telecommunications.'

Insat channels utilised: The department of telecommunications has fully utilised all the 4,000 telecom channels in the Insat-1B satellite almost one year ahead of schedule, the minister said. All the telecom channels were fully utilised by December following the Prime Minister's advice to take full advantage of the satellite's limited life. The scheduled date for completion was December 1986.

The addition of 2,000 telecom channels, to be available after the launching of Insat-1C later this year, would further boost the telecommunication facilities.

/13104
CSO: 5550/0080

INDIA

PTI TO COOPERATE IN INFORMATION TECHNOLOGY PRODUCTION

New Delhi PATRIOT in English 8 Jan 86 p 2

[Text]

A new company to manufacture state-of-the-art information technology products and design and execute complete systems using such technology for news agencies, newspapers, banks, industrial organisations and Government agencies is being set up jointly by PTI and the Madhya Pradesh State Electronics Development Corporation (MPSEDC), reports PTI.

An agreement for setting up the new company was signed in Delhi by Mr Ramnath Goenka, chairman of PTI, and Mr V N Kaul, chairman of MPSEDC at a ceremony attended also by Mr P N Haksar and Mr R M Cama, directors of PTI and Mr B D Khurana, managing director of MPSEDC. The new company will initially have an authorised share capital of Rs 2 crore, with PTI and MPSEDC participating in the equity in the ratio of 50:50.

The company is sought to be registered as Information Technologies Ltd, as it will address systems involving computers and data communication products which constitute the basic building blocks of the information revolution. It is proposed to be set up at Manideep in the backward district of Baisen in Madhya Pradesh.

The company proposes to manufacture "news terminals" including printers, video display terminals, facsimile equipment as also computer-based message switching systems, concentrators, multiplexers and other data communication equipment. Newspapers and other subscribers require such equipment to receive PTI's existing news, commercial and news-scan services in English and those planned in various languages as also PTI's photo and other specialised services. These equipments and services are also needed by Government agencies like the Meteorological Department as also in office automation in a major way, particularly in the banking industry.

Over the last five years, PTI has computerised its news operations and diversified its activities to provide new specialised news and information services to banks, commercial and industrial organisations, in addition to newspapers, All India Radio, Doordarshan and other traditional subscribers. The news terminals required to provide these services, including electronic printers and teleprinters, photo and document quality facsimile machines would be manufactured by the new company.

PTI's R and D department, set up as part of its modernisation and expansion programme, has designed a series of specialised electronic products such as concentrators and selectors, standalone terminals and specialised video display receivers. PTI would be able to provide the new company this know-how, with its experience as a nation-wide user of information technology, products, and as an initial market for the new company.

Mr Khurana, managing director of the corporation, said MPSEDC was concentrating on high technology electronic systems and equipment for professional applications and on high volume production of consumer products. One of the key projects of MPSEDC was the manufacture of optical fibre communication systems for the Department of Telecommunications, Railways, oil and power companies etc.

It was setting up the joint venture company with PTI because computers and data communication products were expected to play a vital role in meeting the information needs of the country and of other developing countries in numerous areas of the economy, he said.

Besides putting into a production the products developed by PTI's R and D Department, the new company would obtain technical know how for latest generation, state-of-the-art data communication products from leading world manufacturers. It would set up its own development and engineering group to assimilate such imported technology and a strong system engineering and turnkey project execution group to design and implement information technology systems meeting the country's needs and conditions.

/13104
CSO: 5550/0077

INDIA

OFFER TO SHARE MEDIA EXPERTISE WITH NONALIGNED

New Delhi PATRIOT in English 13 Jan 86 p 7

[Text]

Minister of State for Information and Broadcasting V N Gadgil has reaffirmed India's commitment sharing its expertise in the field of communications and media with other non-aligned countries and its resolve to enhance the flow of information among member countries.

Addressing the eight session of inter-governmental council of non-aligned Information Ministers here yesterday, he urged them to increase mutual cooperation at this juncture when revolutionary changes were taking place in communication technology.

Mr Gadgil said that the challenges were of much magnitude that unless they mutually cooperated among themselves and absorbed benefits from these changes, they would be fighting a losing battle in their struggle for decolonisation of information which the non-aligned countries had committed themselves in New Delhi in 1983.

The Minister said the new world information and communication order was no longer a mere concept. Its many practical manifestations were already evident. One such was the non-aligned agencies poll, he added.

Mr Gadgil quoted the late Prime Minister, Mrs Indira Gandhi's address to the first media conference of the non-aligned (NAMEDIA) in New Delhi in December 1983: "It was then stated, and again and again clarified that the main objective of the pool was to concentrate on developmental news of the non-aligned countries and not to compete with well established news agencies. In spite of this, I vividly remember how vociferously the western press reacted against it".

He recalled the words of Prime Minister Rajiv Gandhi, who, while addressing the UNESCO in Paris last year, said: "Excessive power over means of communication on the part of a handful of countries is not conducive to real freedom as it affects the right to inform and the right to be informed of people in the less developed countries".

Mr Gadgil said India would continue to make available the facilities at the Indian Institute of Mass Communication at New Delhi and the Film and Television Institute, Pune, to a number of experts from non-algined countries. India would expand the scope for such training in India.

Referring to the reduction of telecommunication tariffs, Mr Gadgil noted that a joint conference of Information Ministers and Telecommunications Ministers of countries acting as distribution centres of the non-aligned news agencies pool was held in Cario in May 1984, which discussed practical measures for reducing the tariffs.

He said a working group on reduction of satellite tariff for exchanges of TV programmes also met in Jakarta in July 1985.

In keeping with the decisions of the Heads of State and Government of the New Delhi summit, Mr Gadgil said India had reduced the satellite transmission tariff. He said India had also introduced a developmental press bulletin service from May, 1984, at half the concessional PB3 tariff.

/13104
CSO: 5550/0078

INDIA

REGIONAL ASSOCIATION OFFERED SATELLITE KNOW-HOW

Bombay THE TIMES OF INDIA in English 14 Jan 86 p 9

[Text] India has offered to share with the member countries of the South Asian Association of Regional Co-operation its satellite comunication programme.

Inaugurating the first regional seminar in telecom co-operation under the integrated programme of action of the SAARC, the communications minister, Mr. Ram Niwas Mirdha, said India had made giant strides in the satellite programme. "With the experience gained in planning, engineering operation and maintenance of such a system, we feel that these benefits can be shared with other member countries of the SAARC."

The seminar, which is being organised by the advanced level telecom training centre, is being attended by representatives of all SAARC countries except Bangladesh.

Mr. Mirdha said India has successfully completed the first phase of the satellite programme through the launching of Insat-IA and Insat-IB.

He pointed out that at present there were 29 fixed earth satellite data receiving centres and four transportable stations with 4,000 circuits. In the seventh plan it was proposed to establish about 80 additional fixed earth stations and 20 more transportable centres.

The minister further said that with the help of domestic satellites, India had been able to provide long distance circuits and link up remote, in accessibly hilly areas. Almost 70 per cent of the population is thus coverd by television through 200 transmitters.

/13104
CSO: 5550/0079

TELELINKS WITH AUSTRIA, MALAYSIA INAUGURATED

Calcutta THE STATESMAN in English 11 Jan 86 p 11

[Text] Mr Ram Niwas Mirdha, Union Minister for Communications, yesterday signalled the start of the international subscriber dialling service from India to Malaysia and Austria by speaking on the trunk telephone to Mr Leo Maggie, Minister of Energy, Telecom and Post, of Malaysia and later to the Austrian Minister of Public Economy and Transport, Mr Ferdinand Lacina.

Telephone subscribers of Delhi, Bombay, Calcutta, and Madras can dial directly to Malaysia and Austria.

Subscribers in the four metropolitan cities are now linked through direct dialling to nine countries-the U.K., Australia, Singapore, Hongkong, Japan, France, and recently to Italy, besides Malaysia and Austria.

The Overseas Communication Service provides international telecommunication services to several countries through Intelsat satellites and locom sub-marine cable and four gateway centres at Bombay, New Delhi, Madras and Calcutta. The seventh plan of OCS includes expansion and improvement of existing cable system between India and the United Arab Emirates, including small dish satellite earth stations, a full-fledged international gateway at Calcutta and establishment of satelliite communication facilites with ships on high seas through the Inmarsat coast search station in Bombay.

Speaking on the occasion, Mr Mirdha said the growth rate had been 155 times in international telephone traffic and 27 times in telex traffic duing the past 14 years.

The international subscriber dialling facility now available in the four metropolitan centres, will be extended to 230 more cities, including Hyderabad, Bangalore, Lucknow, Kanpur, Jalandhar and Agra by April.

The first international subscriber dialling facility was introduced in October 1976.

/13104
CSO: 5550/0082

SUBMARINE CABLE LINK WITH UAE PLANNED

Calcutta THE TELEGRAPH in English 9 Jan 86 p 6

[Text] **Abu Dhabi, Jan. 8 (UNI):** A $50 million submarine telecommunication cable providing 1200 channels between India and the United Arab Emirates (UAE) would be commissioned by the end of next year, the Union communications minister, Mr Ram Niwas Mirdha, said.

Talking to reporters at the end of his two-day visit the UAE, Mr Mirdha said that work on the submarine project was due to begin this March with equal cost sharing between India and the UAE. Gradually, this provide a link between other South Asian and Southeast Asian states and the Golf countries.

Mr Mirdha, who held discussions here with the UAE communications minister, Mohammed Saeed al Mulla, on cooperation between the two countries, said a Swedish company, Swedeetel, had been chosen as consultants for the project while a decision to choose the contractors for executing the project would be taken next month.

So far, the standard telephones of Britain, AT&T of the United States, Fujitsu and NEC from Japan and a French company had submitted bids in this regard.

Mr Mirdha said India had set up a microwave system between Madras and Penang in Malaysia and it would be through this that the Fareastern countries would be linked to the UAE, and then to other countries of the Arab world.

Submarine cables provide a cheaper way of telecommunications than satellites.

He said that initially, it had been considered to use optic fibres for the project but later, to reduce costs, it was decided to use coaxial cables.

/13104
CSO: 5550/0084

INDIA

BRIEFS

AGARTALA STD--Agartala was put on the subscriber trunk dialling map today when the Union Minister for Communications, Mr Ram Niwas Mirdha, received the inaugural call from Mr Nripen Chakraborty, Chief Minister of Tripura. With this, all the State capitals are now connected to Delhi. Out of nine Union Territories, only three are yet to be provided with STD facilities to Delhi. The three are Port Blair (Andamana and Nicobar), Kavarthy (Lakshadweep), and Sylvasa (Dadra and Nagar Haveli). The three stations are likely to be provided STD facilities during the Seventh Plan. Following its policy of linking all State capitals with Delhi, the Department of Telecommunications has, as a first step, started to convert all manual telephone exchanges to automatic. A new exchange was installed at Agartala with a 2,700-line capacity recently to enable STD facilites to be extended to the Tripura capital. Six circuits have been proivded for the direct dialling service, three for outgoing calls and three for incoming. The service will be through the electronic stored programme controlled trunk at the automatic exchange in New Delhi. All the circuits will be through the satellite media of INSAT-IB. The dialling code to Agartala is 0381. [Text] [Calcutta THE STATESMAN in English 11 Jan 86 p 9] /13104

CSO: 5550/0083

IRAN

BRIEFS

ORUMIYEH CENTER RECEIVING STATION--Following the inauguration of Tehran's satellite receiving station today, on the 2nd day of the blessed 10 Days of Dawn, and because of the hard work of the employees of the Voice and Vision of the Islamic Republic of Iran's Television and FM Transmitter Units of Orumiyeh Center, the receiving station of the mentioned center was installed and commissioned to receive picture and sound transmissions from Tehran's receiving station. /as heard/ the picture quality of the vision of the Islamic Republic of Iran, Orumiyeh Center, will improve with this station's operation and the disrupted reception of programs, resulting from microwave lines, will be eliminated. All stages in the installation and operation of this station were completed by the employees of the Television and FM Transmitters Unit of the Voice and Vision of the Islamic Republic of Iran, Orumiyeh Center. The same unit is presently completing the installation of 30 similar stations in western Azarbayjan, which will become operational soon. /Text/ /Tehran Domestic Service in Persian 1630 GMT 2 Feb 86 LD/ 12228

SHAHR-E KORD TV TRANSMITTERS--Because of the joint efforts of the Repair and Maintenance Unit of the television transmitters in Esfahan region and the network's Expansion Unit, the new television transmitter of the first program of Shahr-e Kord Center, UHF band, became operational on channel 34, on the 2nd day of the 10 Days of Dawn. This report indicates that the new relay system of the first program for Shahr-e Kord region on channel 6 was simultaneously installed and commissioned. /Text/ /Tehran Domestic Service in Persian 1630 GMT 2 Feb 86 LD/ 12228

KHORASAN SATELLITE STATION--The Makharz satellite ground station went into operation yesterday. The station, located in the township of Makharz approximately 60 km from Tayyebat and 50 km from Torbat-e Jam in Khorasan Province, was installed by the television station maintenance personnel of the Voice and Vision of the Islamic Repbulic, Hashhad center. Using satellite broadcasts, the station will cover Makharz township and approximately 50 villages in the region, broadcasting the programs of the first network of the Vision of the Islamic Republic of Iran. /Summary/ /Tehran Domestic Service in Persian 0430 GMT 31 Jan 86 GF/ 12228

TV TRANSMITTER OPENED--According to the Central News Unit, yesterday on the 6th day of the 10 days of dawn celebrations, a new 50-watt television transmitter began work in Mahabad. According to the report this transmitter is able to broadcast channel one programs from the Mahamad broadcasting center with a 500 watt radius. [As heard] [Summary] [Tehran Domestic Service in Persian 0430 GMT 7 Feb 86] /9604

CSO: 5500/4721

PIDC TO FINANCE 24 COMMUNICATIONS PROJECTS IN AFRICA

AB221315 Dakar PANA in French 0946 GMT 22 Jan 86

[Text] Dakar, 22 Jan (PANA)--The seventh intergovernmental session of the International Program for Communication Development (PIDC) [Programme International pour le Developpement de la Communication] whose deliberations recently ended in Paris, has decided to grant around $830,000 to finance 24 projects in African countries south of the Sahara, according to a UNESCO communique received Tuesday in Dakar.

The financing represents nearly 35.5 percent of the $2,338,000 total budget that the Council has decided to give this year to 61 projects in underdeveloped countries.

Among the 24 African projects are six regional projects covering:

--Research within the Communication Institute (CAEC), a regional institution created in 1976 and whose headquarters is in Nairobi, Kenya, ($25,000);

--Development of broadcasting in Africa, a project submitted by the International Union of Female Communications Specialists ($75,000);

--Productions of books destined to the training of journalists ($20,000);

--Production of reading materials in Hausa and Fufulde ($35,000);

--And the use of media in the promotion of public health and nutrition, a project submitted by WHO ($25,000).

Among the 18 countries whose national projects have been retained are:

--Angola, which will receive $40,000 for the training of cadres for press agencies and for the supply of materials;

--Benin, $25,000 for the supply of radio equipment;

--Cameroon, $35,000 to computerize its press agency;

--Cape Verde, $35,000 for training and consultancy;

--Comoro, $40,000 for equipment and consultancy;

--Ethiopia, $45,000 for consultancy and scholarships;

--Ghana, $40,000 for the development of the book publishing industry;

--Equatorial Guinea, $40,000 for equipment and consultancy;

--Kenya, $5,000 for reading materials destined for the blind;

--Malagasy Republic, $30,000 for scholarships and equipment for the press agency;

--Mali, $35,000 for audio-visual materials;

--Mauritania, $70,000 for training and equipment;

--Nigeria, $20,000 for training sessions for illustrators of children's books;

--Central African Republic, $35,000 for equipment and consultancy;

--Sao Tome and Principle, $30,000 for radio equipment;

--Seychelles, $15,000 for radio and press agency equipment;

--Zimbabwe, $2,000 for cinematography training.

The African National Radio-Television Union (URTNA), which includes organizations of countries north and south of the Sahara, has received $25,000 for the training of specialists in video-reportage. Moreover, the Council approved a regional project for the development of press agencies in seven southern and east African countries. That project, which will be granted $440,000 from the Federal Republic of Germany, concerns Botswana, Malawi, Madagascar, Mauritius, Mozambique, Seychelles and Zimbabwe.

The next PIDC annual session is due to convene 20 to 26 January 1987 in Budapest, Hungary.

/9604
CSO: 5500/47

PHONE SYSTEM MODERNIZATION

Gaborone DAILY NEWS in English 27 Jan 86 p 1

[Article by Molefe Mmamaplio]

[Text]

GABORONE: Botswana is modernising its telephone network by installing advanced digital microwave radio system this year. Initially this will be built along the Gaborone-Francistown highway.

The commercial manager, Mr Jon Thompson and the Chief Executive Officer, Mr Anthony Hope have confirmed that radio microwaves systems are now in an advance stage in the country. The Gaborone-Jwaneng system would be ready for operation before the end of the year. These are public telephones with special slots in which the customer inserts a coin to get the number he wants without going through the exchange.

According to Mr Thompson, quotations for the installation programme has been received from local contractors. He announced that they have commenced a programme of installing automatic pay phones and initially this would be in both urban centres and densely populated villages.

He said so far they are installing pay phones in eight villages on trial basis, and that they would also be introducing a computerised directory inquiry systems in the first half of 1986.

Mr Thompson said that they would also introduce "International Direct Dialling" (IDD) by the end of this year, which would allow subscribers to dial most countries throughout the world.

Mr Anthony Hope disclosed that work on a new microwave link between Botswana and South Africa was completed late last year and is now in full operation.

He dismissed allegations that the new system was a problem especially during rainly seasons because they intermittently cut off as untrue. He said this was because the new cables are housed in pipes so that chances of getting in touch with the soil are very remote and that the impact of lightning are slim. ***BOPA***

/9317
CSO: 5500/46

TANZANIA

PANAFTEL PROJECT TO SAVE IN FOREIGN EXCHANGE

Dar es Salaam DAILY NEWS in English 29 Jan 86 p 1

[Article by Charles Kizigha]

[Text] The completed part of the Pan African Telecommunications Network (PANAFTEL) project has enabled the country to save at least 21m/- annually in foreign exchange for not routing telephone, telex and telegraph traffic through Nairobi, London and Rome.

The Director General of the Tanzania Posts and Telecommunications Corporations (TPTC), Ndugu J.W.J. Maeda, said this in an interview in Dar es Salaam yesterday.

Completion of the project in 1982 enabled Tanzania to open up direct telecommunication links with Zambia, Kenya, Ethiopia and Zimbabwe.

Before that, he said, communication by telephone, telex and telegraph was only possible through hardpatch circuits or using transit facilities through Nairobi, London and Rome centre, necessitating payment of transit charges in foreign exchange.

The links (PANAFTEL and microwave) which are in service are Moshi-Arusha-Nairobi (since 1982), Arusha-Dodoma-Tunduma (1983) and Dodoma-Tabora-Shinyanga-Mwanza (1994). Other links in progress are Mwanza-Bukoba-Kigoma expect to be commissioned this June.

Civil works for the Nyololo-Njombe-Songea links were nearing completion and outdoor and indoor installations would commence soon after commissioning of the Mwanza-Bukoba-Kigoma links.

Meanwhile, Ndugu Maeda said the solar power system for the Mwanza-Bukoba-Kigma microwave radio does not function properly because the solar array does not charge the batteries.

However, a Japanese firm - Sharp - which designed and assembled the system has been requested to come and solve the problem.

He also said that the capacity standard 'B' Mwenge ground satellite station commissioned in 1979 had been exhausted forcing the country to re-route the additional traffic through other counties - an exercise which costs the country a lot of foreign exchange.

The Director General said the Mwenge station's 60 voice grade circuits capacity was exhausted since 1983. The station started operating commercially on September 1, 1979.

Efforts were being made to secure funds for installation of a bigger (standard 'A' type) satellite, he said.

Ndugu Maeda said the shortage of teleprinters and switchboards would continue until foreign exchange is secured by TPTC.

/13104
`CSO: 5500/49

ISLES RADIO GETS NEW TRANSMITTERS

Dar es Salaam DAILY NEWS in English 6 Feb 86 p 1

[Text] President Ali Hassan Mwinyi yesterday commissioned new radio transmission equipment for Radio Tanzania Zanzibar at Dole, 17 kilometres north of the Zanzibar Municipality. The commissioning was part of the celebration to mark the Ninth Anniversary of Chama Cha Mapinduzi.

The new equipment supplied and installed by the People's Republic of China under a 20.8m/- soft loan, constitutes two transmitters of 50 kilowatts each, a broadcasting studio and set of electric generators for emergency purposes.

The new transmitter, however, is linked by a cable to Rahaleo in Zanzibar town, where the recording studios are situated.

Welcoming the President to start off the transmitters, the Zanzibar Minister for Information, Culture and Sports, Ndugu Ramadhani Shaaban, said the project was conceived by the Zanzibar Government in 1975. Preliminary studies on its feasibility were concluded by Chinese experts in 1977.

In 1982, he said, Zanzibar and China signed an agreement under which China was to supply and erect the transmitter and train local technicians on how to handle and service the equipment. Zanzibar, on its part, was to contribute another 21m/- in local currency for the purchase of building materials and other accessories.

The Minister informed the President that construction of the station which replaces a 10-kilowatt transmitter at Chunguni, on the outskirts of Zanzibar town, began shortly after the Chinese Premier, Ndugu Zhao Ziyang, laid the foundation stone on January 12, 1983. It was completed in June, 1984, six months ahead of schedule.

With the commissioning of the new transmitters yesterday, Radio Tanzania Zanzibar can now be heard throughout Africa and some parts of the Middle East, Ndugu Shaban explained.

Earlier, the Chinese Ambassador to Tanzania, Ndugu Liu Qingyou, said his country had been impressed by the determination of Tanzanians to build their country and the role the country plays towards the liberation of Africa.

"This new transmission equipment will therefore, enable Tanzania not only to broaden her relations across borders, but shall also spearhead the liberation struggle in Africa," the Ambassador noted.

The new transmission station, complete with spacious residential quarters for engieers and technicians to man the facility, is to date the largest single Chinese assisted project in Zanzibar.

Previously, China has extended financial and technical assistance to Zanzibar to set up the Mahouda Sugar Mill, leather and shoe factories and the cigarette plant.

For the past two decades, China has also taken an effective part in the administration of public health services and agriculture in Zanzibar.

Before President Mwinyi unveiled the plaque on the entrance of the transmission complex and pressed the nob to activiate the equipment, Radio Tanzania Zanzivbar staff pledged to handle with care the installed machinery and buildings. They asked the Zanzibar Government to look for external donors to rehabilitate boradcasting studios at Rahaleo.

They also told Ndugu Mwinyi that lack of adequate transport and poor remunerations were hampering the smooth operations at Radio Zanzibar.

/13104
CSO: 5500/49

TANZANIA

BRIEFS

PRC EQUIPS NEW STATION--Dar es Salaam, 6 Feb (AFP)--A 2.4-million dollar radio transmission station, built with Chinese assistance, was commissioned in the Tanzanian Indian Ocean island of Zanzibar Wednesday, enabling Radio Zanzibar to be heard all over Africa and some parts of the Middle East. The station--installed with two new transmitters of 50 kilowatts each, a broadcasting studio and emergency generators--is linked to the recording studios in Zanzibar town, some 17 km (about 11 miles) away. Tanzanian President Ali Hassan Mwinyi, who commissioned the new radio station, was informed that China had supplied equipment worth 20.8 million shillings (about 1.2 million dollars) and the remaining cost of 21 million shillings was met by the Zanzibar government. The new station, whose construction began shortly after its foundation stone was laid by Chinese Prime Minister Zhao Ziyang on 12 January 1983, replaced the antique 10-kilowatt transmitter at Chunguni on the outskirts of Zanzibar town. [Text] [Paris AFP in English 1245 GMT 6 Feb 86] /9604

CSO: 5500/43

U.S. ACTION AGAINST UN RADIO SERVICE HIT

LD121435 Moscow Domestic Service in Russian 0730 GMT 11 Jan 86

[Commentary by Pavel Kasparov]

[Text] REUTER has reported that the U.S. government has interrupted the work of the UN broadcasting service which is supposed to inform the world community about the work of the forum of the peoples of the planet. Formally the broadcasts of the UN radio have been stopped because of the lack of a contract with Voice of America. The REUTER cable even emphasizes that it is a question of an ordinary financial problem, as the Voice of America bosses asked the United Nations too much for the renting of broadcasting equipment. But the deeper one goes into the substance of what is taking place, the clearer it becomes that the problems of financial order in the UN radio case are merely a convenient excuse for Washington to deliver a blow against the international organization which is conducting a policy of establishing a new, fairer information order.

The thing is that over the last few years the overwhelming majority of UN members from Asia, Africa and Latin America have been advancing a resolute demand for an end to the complete mastery of western, and especially American, services in the world information market. Judge for yourselves: outside the boundaries of the socialist countries, western agencies control 80-90 percent of all information disseminated there. In a single year U.S. television companies sell to the so-called Third World countries up to 200,000 hours of television programming, while those countries themselves have only 5 percent of radio and television stations on the planet at their disposal. That kind of one-sided flow of information distorts the picture of the contemporary world, foists alien ideals on millions of people and obstructs the development of their own culture. That is why the international community devotes a lot of attention to eradication of that kind of western imperialism in respect of the world's developing countries. The work of the UN radio also serves those objectives to a certain extent.

But that is precisely not to the liking of the United States, which strives, as we all know, to dictate not only its views but also its wishes to the entire world, not stopping even at open blackmail. And so this time too Washington saw an opportunity to scare the United Nations lest, as they say, it made a habit of it.

/12712
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EBU OFFICIAL COMMENTS ON PLANS FOR ALL-EUROPEAN CHANNEL

Milan VIDICON in Italian Nov 85 pp 29-31

[Article by Cecilia Zecchinelli entitled: "'Europe TV' Is The First All-European Channel Created by 5 Public Networks, One of Which Is RAI"]

[Text] The war between state television and commercial networks in Europe will shortly take on a truly continental dimension by really creating, for the first time, one "great electronic village" extending past national borders. And if on one hand the private entrepreneurs have for some time been sharpening their weapons, namely, satellites, the public networks are not just looking on but have begun the counterattack.

A project that will shortly cause much discussion in Italy also, although for the moment few people outside the restricted circle of those working on it know much about it, is that of the EBU (European Broadcasting Union), officially inaugurated in its experimental phase on 5 October in Holland. It is "Europe TV" (the original name 'Olympus' had to be changed after protests from the makers of the Japanese camera of the same name), the satellite and cable channel to which five European countries are subscribing today.

In order to find out more about it, we asked Frank Naef to explain the project to us.

"Europe TV, the all-European satellite channel," explained Naef, "is a typical example of how the European public televisions and their association, the EBU, intend to operate today in an audiovisual world which is continuously evolving. It is the quality response to the commercial satellites and to the invasion of American programs, which will find very little space among Europe TV broadcasts. Finally, it is evidence, at a high technical level, of the desire of state television to become more competitive, more modern, less self-centered and nationalistic."

As we have said, for the moment, five televisions have subscribed to the project: The Netherlands' NOS, which in a sense is leading the operation at least in its experimental phase which will last until 31 December with diffusion via satellite and cable (the Netherlands, furthermore, has made available the center for "Europe TV" at Hilversum), the Irish RTE, the FRG's ARD, the Portugal's RTP, and finally, Italian RAI.

The five networks have financed the initial phase of the project with a sum of approximately $14 million and are studying the development of the next phase, which will come into being for Ireland, the FRG, and Portugal at the beginning of 1986. For the moment the diffusion is restricted to the Netherlands alone, and is brought about via satellite (one channel on the ECS - European Communication Satellite) and via cable system, which are numerous and highly developed in the Netherlands. The precise diffusion of the all-European channel within the Netherlands is yet to be defined, since many systems cannot carry more than eight channels and overcrowding is already a problem. However, it is very likely that the Netherlands parliament will soon pass a law on the basis of which the national channels will have precedence over foreign channels, and that "Europe TV" will be able to benefit from this same right. This is an example of the power that an association of state televisions can obtain at both national and international levels.

At the beginning of next year, however, although the experimental phase will not really have been concluded, the other countries too, except Italy, will begin to broadcast the "Europe TV" program; Ireland and Germany via cable system; Portugal, on the other hand, will transmit over the air on the second channel of the RTP. In Portugal, in fact, as in Italy, cable systems are practically nonexistent.

Italy should actively take part later on, limiting herself for the moment to taking part in the financing and organization of the project, while waiting for the launch of the European "Olympus" satellite (the name has been kept for the moment) forecast for 1987-88.

"In the second phase, which will start with the launching of 'Olympus'" Naef added, "we will go on to direct broadcasting."

"Of course, we will arrive at this stage only if the first years of the 'Europe experiment' have been positive, if the program has had a good audience and the advertisers have supported it!"

The chances are good: According to EBU forecasts, the potential public after 1988 amounts to 20 million families, not an impossible target if one considers that 360 million television sets in Europe can be connected to a DBS system.

But what is this channel like? What does it broadcast?

First of all, both by political and cultural choice, and for budget reasons, "Europe TV" is almost exclusively a European channel. The programs will be obtained in three different ways: some will be "recorded" by the member countries of the association and by the other televisions of the EBU; others will be purchased only at cost price, that is, for as little as possible; others finally, will be bought normally on the international markets or through business contacts. Like any other TV network in the world, the "Europe" buyers were present at the fall markets. The kind of transmissions, which for the moment are restricted to 3 hours per day, are defined by Paul Henriksen, general secretary of "Europe," with this slogan: "the best of European program for European viewers."

There will be cultural and scientific programs, documentaries, news (for the moment only on Sundays, but beginning next year every day), cartoons and other programs for children, entertainment and a lot of sports. The possibility of buying from the United States or other countries is not excluded (we must remember that the EBU has "associated members" all over the world, from the Japanese Asaji and Fuji, to the three large American networks), "but they certainly will not be the serials or soap operas of the 'Dallas' and 'Dynasty' kind," Henriksen added.

Even if the directors of "Europe" were interested in the affairs of the Ewings and the Carringtons (and they are not) the newly born channel could not afford similar purchases. The estimated running costs for the first period are approximately $10 million, which will become $42 million a year in the next phase. These figures only allow for economical running of the channel, so much so that the price paid by "Europe" cannot exceed $1500-2000 per programming hour.

Advertising, however, is not only permitted but definitely encouraged, although it will be broadcast only between one program and another or in "natural breaks" (for example, between the first and second half of a match.) Klaas Jan Hindriks, director of programs, in the American weekly VARIETY affirmed that there are considerable possibilities for getting a good number of commercials together. "The market research we have carried out indicates that there is still a lot of space in Europe for advertising. We are aiming at rather special advertisers, those who are interested in an international market.

"Obviously a rather special medium, too, is needed for them, with a different audience than that of the national networks."

"Well, we are that medium."

In the projects of the new satellite channel, the progressive growth in publicity returns will be such as to allow for total self-sufficiency of the network by 1990.

This network will, its directors emphasize, supply an absolutely free service, and thus benefit from greater competitive power as compared with the commercial cable TVs which charge a monthly subscription.

And so "Europe TV" will be, indeed already is, free, cultural, international and, of course, polyglot. During the first year, in fact, broadcasts will be in four languages (English, German, Portuguese and Dutch). The programs will be broadcast and received in their original language, while other parts of broadcasting will allow for the use of subtitles or dubbing (voiceover) of the dialogue in the viewer's language.

We shall probably have to wait until 1988 for the introduction of "Europe" in Italy; we lack cable networks and the space for television is definitely too crowded at present to allow for experimentation. However, our country views the all-European channel with great interest. After years of long discussions and very few results, "Europe" is one of the recent signs, along with the growth in coproduction, of a new or "continental" age in television.

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EUROPEAN RESEARCH IN OPTICAL SWITCHES

London THE ECONOMIST in English 26 Jan 86 p 87

[Excerpts] Telecommunications firms everywhere are planning to use fibre optics to send more information, more quickly, than can conventional cables.

Electronic switches can handle only about 100 megabits of information a second, the equivalent of about 1,500 normal telephone conversations. Fibre-optic transmission lines, on the other hand, promise to carry the equivalent of about 1.5m telephone conversations, or 100 gigabits a second of data. Unfortunately, many networks require electronic switches to sit across the line like a traffic light on a motorway slowing everything down to their speed.

Researchers have three basic approaches to opening this bottleneck. The simplest, and the only one now in use, relies on the flexibility of optical fibres. Half a dozen or so optical fibres are arrayed around the mouth of a device which behaves like a funnel. Each is attached to a tiny arm, which, when flexed, pushes the fibre down into the throat of the funnel. Here it meets a fibre running out the other end of the funnel and, presto, a connection is made.

This clumsy device is not the sort of thing on which researchers' reputations are made. A more promising approach being pursued by several companies--including America's AT&T and Huges, Japan's NEC and Fujitsu, and Sweden's Ericsson--exploits an interesting property of a material called lithium niobate; namely, that it transmits light differently when an electric field is passing through it than when one is not.

Put light through a lithium niobate channel laid side-by-side with a similar channel and the light beam will swing back and forth from channel to channel, as regularly as a pendulum. But pass an electric field through one of the channels and the beam stops moving back and forth; the affected channel no longer transmits light in the same way as its neighbour. By carefully timing when the electricity is switched on, it is possible to choose the channel in which the beam will be trapped--and so a switch is born.

The obvious drawback to this switch is that two channels must travel side-by-side for a short distance. That means complicated wiring for even relatively simple switches; to connect four input lines to four output lines, for example, requires 16 side-by-side couplings. And the bending and twisting needed to make these connections increases the amount of light lost in the switch.

Researchers at France's Thomson, among others, have a third approach to optical switching. The idea is to use a square block of a crystal called bismuth silicon oxide to direct any one of up to 1,000 incoming light beams into any one of up to 1,000 outgoing channels. The neat part of the trick is that the direction of the bending is itself controlled by light.

By playing two lasers over the crystal, the researchers create a hologram which, in turn, changes the way in which light is diffracted by the crystal. Thomson has created a prototype that can switch an incoming beam to any one of about 200 outgoing lines in about one 5,000th of a second. But much work remains to be done; both on improving the light-transmitting efficiency of the switch and on reducing the cost of the lasers and other equipment needed to control it.

/9274
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EUROPEAN TELECOMMUNICATIONS POLICIES, STRATEGIES VIEWED

Milan TELECOMUNICAZIONI OGGI in Italian Nov 85 pp 42-48

[Article by Santolo Cirillo under the "Technology and Markets" rubric: "Italian Is One of the Languages Spoken on the Planet Telecom"]

[Text] The pluralistic nature of telecommunications in Italy, which are based on a system of conventions and on a division of organizational and management responsibilities, is now at the center of a complex discussion which clearly shows that change can no longer be postponed.

The trends towards integration of methods and services into a single telecommunications network, a trend strengthened by technological innovations, stipulates one basic premise: that a full review be made of existing telecommunications services and that the areas of responsibilities of both State and concessionary enterprises be clearly and unequivocally defined. In order to review the whole organization and management of telecommunications it would be well to modernize services in an attempt to unify them, although this will have to be accomplished both gradually and by making specific choices. In line with this, the renewals of the concessions with the companies SIP, ITALCABLE and TELESPAZIO has been based on the need to overcome the existing difficulties by eliminating the present inconsistencies in the distribution of the traffic and making the management and organization of the system more functional and cost effective. This certainly represents a first significant step towards the modernization and requisite updating of the national telecommunications system.

In addition to this, a more thorough and complete process of reorganization of the telecommunications sector includes additional aspects, which are fundamental to a course of action of this kind. These aspects can be summarized as follows:

--Necessity to regard telecommunications as a unified system, both as regards domestic relations and international relations, in order to achieve a systematic development of networks and services;

--The need to bring the national network rapidly into line with the evolution of methods and systems in the network of world telecommunications.

--The need to coordinate and systematically develop the individual sectors of the national system of telecommunications on the basis of growing internal and external requirements.

The new structure of the sector has to take account of all these trends in order to cope with all the requirements mentioned above regarding State-run structures and concessionary companies and in order to optimize the allocation of all available resources.

At present everything points to the reorganization of both the Ministry of Posts and Telecommunications and of telecommunications services to create a unified system.

According to existing regulations, the Ministry of Posts and Telecommunications has responsibility for all the services; it is assisted by the relevant associated bodies, that is, the Managing Board and the Higher Technical Committee PTA, and also by the director general of the PT Authority along with the chief of the General Supreme Inspectorate for Telecommunications.

However, a better organizational structure would require that the minister should perform the typical activities of organization, coordination, programming and control for which he--in his official capacity--is responsible by making use of a specific ministerial authority. This body must be a separate entity from the structures in charge of running the services, which should be, in turn, granted a degree of self-management and act on the basis of the guidelines established by the minister. This would be based on programs formulated and finalized by the Government.

The need to stress the tasks for which the Ministry of Posts and Telecommunications is responsible has long been felt. The solutions suggested by the different political and social forces and by trade unions point to a unification of the organization and management of all telecommunications services in a single system. Therefore, all tasks concerning strategic planning, content, control and coordination of all the activities carried out in the telecommunications sector, along with the running of all the public authorities involved in this activity, will be dependent on the Ministry of Posts and Telecommunications, as was stipulated by the legislative provisions regarding postal and telecommunications services, approved by Decree No. 156 of the President of the Republic on 29 March, 1973 by the regulations in force.

In order to achieve new organization and management in the telecommunications sector, operating structures should be rationalized, thereby unifying the services into a homogenous organizational area and separating organization and management of domestic services from international ones, without affecting the concept of state monopoly of all sectors of telecommunications services, except for the so-called "value added" services. Considering the importance that must be attached to the sector in functional terms, a definitive solution to the problem calls for an intensive study of the subject and an extensive constructive discussion on the part of all political and social forces, with the aim of establishing, by means of concrete verification and checking at a practical level, the most widely accepted choices for an optimal organization of the whole telecommunications sector. However, this organization will have to ensure that the management and organization of telecommunications will be based on the requirements of the public and on meeting user demands. Also, and most importantly, it must be in line with the evolution of the country.

This commitment entails considerable, highly complex problems: making new services available; the creation of systems capable of integrating services and methods; technological change and the consequences for production structures and employment levels. All these form part of a far-reaching development process involving not only the bodies responsible for services and manufacturing companies, but which also requires the allocation of vast financial resources and therefore specific economic choices.

Italian Telecommunications in Europe: Outlook and Development

A reorganization of the whole sector of Italian telecommunications, brought about by new developments in technology and by changes in systems of information, must acknowledge that methods of communication cannot be regarded as the heritage and wealth of one nation alone, but rather as the result of efforts of all mankind. Therefore, it would be meaningless to plan the development of telecommunications in Italy differently from that which is underway in other European countries. In order to achieve a closer and constant collaboration, it would be advisable to compare the stage of technological development attained by those countries in the information sector and also to try to reach international agreements mainly between Italy and other EEC countries. In this way, it could be possible to attain an optimal and mutual utilization of information systems in the future, both on a national and international level. Moreover, the increasingly extensive use of telecommunications satellites in Europe and all over the world has recently opened attractive horizons and extremely interesting prospects, although technical, legal, economic, and practical problems cannot be avoided.

Some international organizations such as the EEC and the Council of Europe are helping to overcome these problems by suggesting a series of initiatives designed to draw up a common strategy, hinging on the supposition that the countries involved have a European approach.

The new European audio-visual structure basically will be composed of satellites, cable and optical fiber systems, and video receiver equipment. When considering the decisions adopted by numerous governments to set up cable transmission systems, it is possible that by the end of the 1980's the situation will be the following:

--A keyboard will be added to the household receiver set, that is, the current television set, which will be transformed into a terminal. Using this, it will be possible to access numerous services (telecommunications, data banks, different services, and so on). Therefore, television will be no more than one of these services;

--The receiver set will be fed via cable (especially in urban areas) and also through antennae capable of directly receiving both satellite signals (TDS) and overland signals (especially in nonurban areas).

The new technological developments in telecommunications and above all, in satellite television (TDS) will enable all European citizens to get to know and appreciate the cultural unity of our continent and to take part in it.

In the face of possible telecommunications developments of this kind, Italy, as well as other European countries, must commit itself on a number of fronts, which could be summarized as follows:

--Institutional policy: An overall regulation of the "European system" must be formulated and enforced. This system would be composed of an interconnected body of satellites, cable networks and conventional networks.

--Industrial policy: The standardization of technical regulations should be promoted and the European industry should be supported.

--Policy of program production: No European country will succeed in singlehandedly satisfying the rocketing demand of tomorrow's television in this field. Europe will not be able to ignore two important needs, that is, the integration of the market for programs--both as regards supply (production) and demand--and the integration of the cinema and television sectors.

--Cultural policy in the strict sense of the term: The pluralism of the individual national identities, which makes up Europe's cultural identity must be safeguarded.

In this context, the formulation of common programs in telecommunications must be seen as a first important step toward a more European awareness of future prospects and problems.

Organizational Coordination and Technical Regulations of European Telecommunications Within the Framework of the CEPT

The CEPT [European Conference of Postal and Telecommunications Administrations] has to be placed within the general framework of technological renewal of systems of information and of the proliferation of new kinds of telecommunications services (Videotext, Teletext, Videoconference, Electronic Mail, and so on) that have been added to traditional services. This international technical body has come to assume a role of fundamental importance in Europe. The authorities and public bodies responsible for telecommunications services of 26 European countries depend on the CEPT, which is in charge of telecommunications policy on our continent and, more importantly, supervises the relevant regulations.

In the face of a rapid development in telecommunications, the CEPT countries, including Italy, in response to an explicit EEC invitation have undertaken a coordinated action designed to rationalize the telecommunications sector as much as possible through a harmonized policy which also takes into account production requirements.

A "coordinated" policy was therefore passed by the CEPT because of the widespread conviction that the central and decisive role played by telecommunications in today's society requires that joint political action be taken at a "supranational" level, taking into account the different interacting factors: administration, finance and economics, manufacturing and social issues. The first result was a series of activities which started in 1976 and led to some changes in the organizational structure. These activities were aimed particularly at setting up specific "Coordinating Committees."

The areas in which the CEPT wishes to carry out its "harmonizing activity" can be summarized as follows:

--development of networks and services;

--standards and regulations for the different services;

--technical standards concerning network designs and equipment and user terminals;

--procedures for approval and use of materials, with particular reference to user terminals.

All four areas mentioned above include technical and political aspects; nevertheless, while political aspects are prevailing in the first area, technical aspects are prevalent in the other ones.

The "Committee of Harmonization," called CCH, is responsible for coordinating activity in the last three areas. This operates through eight technical working groups. Five of these groups, the SF (Services and Facilities), R (Radiocommunications), CD (Datacommunications), CS (Switching and Signaling), and TR (Transmission), are coordinated by the CCH regarding the choice of topics to be dealt with and the priorities and timing to be observed. However, in technical terms, these groups do not depend on the CCH since they report directly to the Telecommunications Commission of the CEPT. The other three study groups are, on the contrary, a direct offshoot of the CCH and as such they directly depend on it regarding the technical content of their work. These three groups are the GSI (for the narrow-band integrated service digital network-ISDN-and for its progressive evolution toward a relatively wideband longdistance network); GSM (for a European cellular 900 MHz mobile radio system), and the GSLB (for the local wideband networks). The state-of-the-art topics dealt with by these three groups are obviously interconnected to a great degree as well as being connected to other areas of research. Therefore, these three groups act as points of collection, coordination, and programming of the work carried out on these three topics by all the other study groups.

In order to accomplish its global coordinating activity in the harmonization process, the CCH makes use of "Plans of Action." These plans establish, for each sector to be harmonized, the topics to be dealt with, the working groups to be involved in the study, the priorities of the different topics, and an outline of the timetable to be observed.

The single "Harmonization Projects" derive from the plans of action. The limits of the phased studies, the level of harmonization which should be reached, the order of priorities and the timing of the individual stages are established in detail for all harmonization projects.

The activity of the CCH has focused particularly on the area of harmonization of the technical regulations governing network design and equipment and user terminals; the most significant leaps forward were made in this area.

In this respect, things are made easier by the widespread conviction that, notwithstanding all accusations which can be made in abstract terms against regulations as an instrument which hinders technological development and represents an obstacle to the creation of a highly competitive market, technical regulations are nonetheless seen to be indispensable if problems of interconnection and interaction between the various parts of the system are to be minimized and "uniform" performance is to be guaranteed.

When defining the harmonization work to be done, the CCH was often and still is compelled to face various problems. Among these problems the following must be mentioned:

a) The telecommunications standards cannot be considered separately from the ones concerning informatics services, that is, the processing of data and information.

b) The rate of technological innovation is increasingly fast, while the intrinsic complexity of the necessary standards increases the time needed to prepare them.

c) Technological innovation enhances the variety and diversity of equipment and services, while the standards aim at unifying or at least reducing the number of solutions needed.

d) International standards should be sufficiently "receptive" to technological innovation and should be composed of as few conditions as possible in order to be prepared quite rapidly. Nevertheless, they should not leave room for completion at a national level since in such cases different regulations could be adopted by various countries and thus the economic and commercial goals, which could be attained by means of a high "scale economy," would be thwarted.

e) In order to prepare standards rapidly, working methods should be based on small groups of experts. It would be well to consider that the CEPT regulations are not compulsory for the CEPT countries; they are simply "recommendations" that can be disregarded or at least adopted some time after their formulation.

The CCH established some fundamental rules governing the harmonization works in view of the above mentioned considerations.

A) Top priority has been given to "topics to be considered," that is, future-oriented services and equipment have been given priority in the harmonization work. The sectors selected here concern telematic terminals for transport services and teleservices, the impact of high-level protocols, the dedicated networks, including networks via satellite, the narrow band integrated service digital network (ISDN) moving towards wideband systems, the role played by satellites in ISDN, mobile radio systems, local wideband networks and finally LAN (to some extent).

B) The "level or harmonization" comes second. Four possible levels have been established. The level of harmonization is chosen case by case in order to avoid situations which could result in plateaus in technological development and consequent losses of competitiveness. The goal of "functional harmonization" is generally pursued; this represents the third level and can definitely contribute to broaden the international markets. This goal can be reached provided that no operational clauses or functional options--which could result in different products in various countries--are added to the standards. This is certainly the most delicate problem of the whole process of harmonization, which could be solved only by a positive and committed attitude of all the countries involved. In short, it all comes down to promptly adopting the regulations worked out by the CEPT and, with a few exceptions, avoiding functional options and conflicting operating criteria which could considerably impair the international validity of the regulation.

C) The "relations with other regulating authorities" comes third. Here, the primary goal consists of avoiding conflicts with other international authorities such as the CCITT [International Telegraph and Telephone Consultative Committee], CCIR [International Radio Consultative Committee], ISO [International Organization for Standardization], and IEC [not further identified] in keeping with the fundamental consideration that the CEPT standards must be in harmony with world standards. This gives rise to the following fundamental objectives pursued by the CEPT in the formulation of such standards:

1) Whenever possible, to submit a unified point of view of the CEPT countries to CCITT, ISO, CCIR and so on in order to increase the possibility of reaching final solutions that are consistent with the views of the CEPT itself;

2) To start negotiations with other regional organizations, and with delegations of non-CEPT countries, in order to eliminate different points of view on specific subjects and to strive to reach agreements which could make the formulation of unified standards easier;

3) If need be, to anticipate the international standards of CCITT, CCIR, ISO and others;

4) If need be, to complete the standards of CCITT, CCIR, ISO and others, especially when such standards leave different options open;

5) To provide for regulations on specific European needs which are not provided for by other regulating authorities.

D) "Relations with industry" comes fourth. The CEPT is an organization related to the postal and telecommunications authorities, which in theory does not allow external bodies, especially industrial ones, to take part in its activities.

Nevertheless, since harmonization processes necessarily require the cooperation of industry experts, the CCH was entrusted with the task of maintaining relations with European industry both for the requisite exchange of information and to initiate operational collaboration between the working groups. Great interest recently has been given to the problem of user terminals, especially when considering the trends toward free market systems, which are increasing in all countries.

Freeing the market is something which has to occur simultaneously in a number of different countries if it is to be fully effective and constitute a genuine relaunching of the industry. The free market system will thus give rise to a broad and exciting market that will make it possible to achieve "scale economies," something which is absolutely indispensable. In order to pursue such a policy, specific technical and administrative standards for network approval have to be finalized at a European level in order to safeguard networks, users, and bodies responsible for the services. The strictly technical standards are intended to establish the terminal functional characteristics of interoperation between terminals (for teleservices) as well as these conditions that will make it possible to avoid interference with other users and parts of networks. In addition to these technical standards, other important factors are under examination: harmonization of administrative procedures of approval, administrative procedures regarding the use of terminals, and the technical administrative procedures concerning permission to be connected to the network.

Despite the considerable amount of work that already has been done, a considerable effort still has to be made in order to condense and rearrange the authorization procedures, including technical standards and administrative and procedural norms.

In order to better meet these new demands, the present organization of the CEPT harmonization structure will be slightly modified.

Future Development in Telecommunications Services Via Satellite

We have already stressed the extremely important role played by satellites in the field of telecommunications together with the extensive range of possibilities that will be offered by the use of this new and important technological system in the future. The range of new services and connections made possible by satellites is increasing more and more. Italy's interest can be seen in its increasingly active and concrete participation in these new services, many of which are at an advanced stage of utilization in this country.

At present, satellite systems connect telephone and television networks of different countries through ground stations with large antennae (30 m in diameter). In the future, even small centers such as cities, islands and mobile units on land will be directly connected via satellite.

Particular interest should be attached to the telecommunications service operating between ships and coastal stations, carried out by the commercial satellite "Marisat," which is fully operational. An extension of this such activity has already been scheduled on a world scale and its full realization is in progress. It will make it possible to improve the present services and introduce some new ones, such as full control of maritime traffic and the transmission of news, and various programs and scientific data designed to guarantee highly specialized onboard activities such as medical procedures which will be directly controlled by specific landbased centers.

Another telecommunications service worth mentioning is the connection of computers through satellites. It is an application which makes it possible to integrate the computer capacity of centers in various countries to the great benefit of the economy, research, and all other activities requiring the use of computers.

The development of the exsiting systems and the implementation of new ones will have a considerable effect on the electronics industry. A remarkable increase in the number of land stations of different dimensions is to be expected along with the accomplishment of new technology designed to improve the efficiency of connections and to increasingly optimize equipment for the specific service to be carried out. Therefore, rationalization of domestic programs, within the context of international developments, will enable Italy to have an adequate productivity at a world level.

In general, the technology to be developed will focus on the costs and reliability of the equipment and place the accent on microwave integrated circuits and have an effect on the production of RF equipment in the GHz 1,5 - 2,5 - 4/6 - 11/14 and 20/30 bands. There will be an increasing tendency for ground stations to be modular and automatic; many of them will be unmanned and will have to be designed for the specific environment they operate in (fixed or mobile platforms). They will deal with a high volume of digital traffic and they will have wideranging characteristics, according to the system in which they are used. In addition, new applications will be introduced which are more specifically oriented toward the needs of both users and traffic.

The development of digital transmission systems will be given great priority. Integrated circuits have been widely used for logic functions in computers; nevertheless, these circuits which were experimented with for the first time in 1969, have already been used for some time in telecommunications.

Research and development programs on antennae have long been underway. Indeed, there is a need to increase the efficient use of available frequency bands, which rapidly become saturated. To achieve this, it is necessary to perfect methods designed to obtain extremely accurate reflecting surfaces in order to improve not only the directional accuracy of the satellite but also the radioelectric characteristics in order to reduce all kinds of distortions to a minimum.

Research and development programs are also underway with the aim of producing antennae capable of operating in more than one frequency band with the requisite degree of precision. The availability of multifrequency antennae will succeed in considerably reducing both production and running costs.

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ERICSSON PROPOSES ACCORD WITH CGCT ON SWITCHING EXCHANGES

Paris LA TRIBUNE DE L'ECONOMIE in French 19 Dec 85 p 6

[Article by Eric Rohde: "Ericsson Wants to Create a Consortium Around CGCT with Bull and 'JS'"]

[Text] A new item will have to be added to the telephonic and international alliance projects file: the Swedish [corporation] Ericsson is ready to return to France and work with the CGCT. It was known that Claude Vincent, the PDG of this nationalized corporation had had several conversations with the directors of the Swedish multinational. It is also known that the authorities recently asked him to put an end to these negotiations, considered incompatible with the proposed alliance between ATT-Philips and the CGE, in which, as we know, the CGCT [Compagnie Generale de Constructions Telephoniques] is involved.

What we did not know, on the other hand, is that, as early as November 1984, Ericsson had proposed a return to France (from which it had been ousted in 1977 at the time the telephone industries were made French). The first approach was made at a reception at the Swedish embassy to which Louis Mexandeau had been invited. Nearly a year later, this oral proposal was repeated and clarified in a letter sent by Bjorn Svedberg, Ericsson's PDG, to Edith Cresson, the French minister of industrial deployment and foreign trade. A meeting also took place last November between the company representative and the minister.

What does Ericsson propose? The Swedish group does not conceal the fact that what interests it in France is the share of the public equipment market currently being held by the CGCT: the famous 16 percent at the heart of the CGE-ATT-Philips negotiations. The leaders of the Swedish group are eager not to clash with the authorities--who recently made official their intention to pursue negotiations with ATT-Philipps--by publicly making a counterproposal. Nevertheless, that is indeed what is involved.

To Export 50 Percent

Like ATT-Philips, Ericsson is proposing cooperation with the CGCT for the manufacture of these public switching exchanges in France. But its action is more subtle. On the one hand, Ericsson explains from the outset that it is willing to develop fully the CGCT's production capacities in this field; that is to say, some 300,000 lines per year. "We could export half of these to one of the 62 markets in which we have won positions throughout the world," Karl Axel Lunell, the Ericsson vice president, explains.

"Ericsson is equally interested in the very considerable research and development potential that currently exists in the CGCT. One of the best in Europe. We might use it, for example, in perfecting our AXE electronic exchange according to American standards." And there again the idea of penetrating the American market... Ericsson, for its part--after the Canadian Northern Telecom, the American ITT and the French Alcatel-Thomson--is determined to force open the doors of the world's foremost market.

The Swedish multinational is also rather cleverly advancing the idea of creating around the CGCT a genuine European consortium in the telecommunications field. With Bull, the French computer manufacturer, and another French [firm] specializing in business communications, Jeumont Schneider or Matra. Companies whose interest in a resumption of certain CGCT activities is already known (LA TRIBUNE of 28 September).

The fact that Ericsson is already present in business telephonics and bureaucracy since its taking back of Data Saab and Facit, and in data processing through an alliance with American Honeywell (an ally of Bull), is not a detriment, according to Lunell. "We might be able to find synergies among ourselves."

If the relevance of such a European industrial group--with extensions across the Atlantic--still requires verification, this proposal by Ericsson cannot fail to have some political impact at a time when the authorities are showing themselves reluctant or hesitant to open France's doors to ATT.

9434/12948
CSO: 5500/2567

FRANCE

COMMERCIAL RADIO TO BROADCAST ON FM

Paris LE MONDE in French 3 Jan 86 p 18

[Article by Annick Cojean]

[Text] RTL [Radio-Television of Luxembourg], Europe 1, RMC [Radio Monte Carlo], and Sud Radio [Southern Radio Station] will be authorized before mid-January 1986 to broadcast their programs on frequency modulation. Two frequencies made available by the Army for this purpose--probably 104.3 and 104.7 MHz--will be placed at their disposal in some 30 cities, thus obliging the four radio stations to share the territory and adhere to the present limits of their respective broadcast zone.

What a fuss, what a to-do if the decision to make FM bands available to the major commercial radio stations had been made public only 3 or 4 years ago. FM was then perceived as the opening of the auxiliary, community, and nonprofit stations, a universe of creation that it was appropriate to protect from the commercial pursuits and concerns of the profit-making radio stations, held in contempt by the prime minister of that time, Pierre Mauroy, and whose major private AM radio stations represented the prototype.

But the pressure of events and uses soon disturbed this unrealistic vision: The growing success of the new radio stations, the gradual use of advertising, and the constitution of networks have transformed FM into a new medium, flexible, youthful, endowed with an ease of listening that the major radio stations will never be able to match. FM became an important asset to seduce young listeners who are increasingly demanding in terms of quality of sound, to entice advertisers and announcers definitively won over, despite the persisting high cost of campaigns, by the rosy future of FM.

Rightly concerned, the major radio stations then argued their case: What is the use of new stations, the creation of new subsidies, if the result involves the demise of the earlier radio stations? Is FM the wave of the future? Then there should be open competition in the name of the principle of equality of opportunity among radio stations. The argument convinced SOFIRAD [Financial Company for Radio], a state holding company which controls Europe 1, RMC, and Sud Radio and which was directly concerned with the financial soundness of its affiliates, and the political decision was made some months ago.

Difficult Discussions

What remained simply was to define its methods of implementation. Which frequencies were to be assigned to the peripheral stations when the entire FM band was saturated and the higher authority found itself constrained to refuse applications for broadcast authorization on the single grounds of a shortage of wavelength frequencies? And what to do so that these radio stations have available the same single FM frequency in the entire territory? The solution was found in the expansion of the band which stops today at 104 MHz and the start of negotiations with the Army, which has title to the 104-108 MHz wavelength.

Discussions were slow and difficult, since the 104-108 MHz band was still being used in some regions at the time of military maneuvers; but the secretariat of state in charge of communication technology ended up by securing the two frequencies that it was insistently demanding, namely 104.3 and 104.7 MHz. These are two frequencies that became available throughout the territory and which the three peripheral stations and Sud Radio will have to share.

Undoubtedly, these are two desirable frequencies, but insufficient to satisfy needs. RMC, which ardently hoped to reach Paris with its broadcasts, and the RTL, which hoped to broadcast in the cities of southern France, saw their applications turned down. "The hour for deregulation has not arrived," it was decided. "The only way to emerge from this situation is to respect the existing status quo as regards the respective broadcast zones." Europe 1 and RTL will broadcast using FM north of a line running from Bordeaux to Lyons to Grenoble. Sud Radio and especially RMC will operate in the south. This division obviates the need for the two affiliates of SOFIRAD, namely, Europe 1 and RMC, to compete but does not completely satisfy RTL, which refuses to accept its exclusion from the south as being justified. The secretariat of state, which does not wish to become involved in city-to-city bargaining, feels that "it is up to the radio stations to agree among themselves."

The sharing of the wavelengths is touchy, especially for some "borderline cities" such as Grenoble, Bordeaux, or Clermont-Ferrand, from which one of the three peripheral radio stations will necessarily be excluded. But each of the interlocutors is concerned not to delay a measure whose principle they find highly gratifying. Once the partners are agreed on the distribution of the zones and the methods of their broadcast by TDF in some 30 cities, the government will sign an agreement with each of the four radio stations. A date? By 15 January 1986, it is strongly hoped on both sides, with Europe 1 being ready to broadcast on FM through its own capabilities if by chance the date should again be postponed.

2662/12859
CSO: 5500/2562

FUTURE STRATEGY FOR TELEPHONE INDUSTRY DISCUSSED

Paris LE FIGARO in French 14-15 Dec 85 p 17

[Text] To understand new developments in the current negotiations between national and international telephone companies, we must first explain what French policy in telecommunications is going to be.

Barring the unexpected reservations voiced yesterday by Mr. Chevenement, there has nearly been a consensus ever since Michel Noir, national secretary of the RPR in charge of the industry, said that "the head of a firm is in the best position to conduct its international strategy."

Many people took this to mean that the opposition was dropping the criticism leveled at Mr Fabius that he was abandoning a French group to the Americans.

For the public telephone companies, there are two policies, one short-term and one long-term.

a) In the short term, Alcatel Thomson will have a hard time penetrating the American market. It is essential for it to do so. ATT has suggested americanizing one of its companies. However, since deregulation in the United States, every company is free to buy the equipment it wishes, and no guarantees can be given.

Likewise, ATT, which obtains in turn the approval of its exchanges, has no assurance that the PTT's will buy from it, since the orders are approved by the legislature every year.

So Mrs Cresson wrote to the ATT president confirming the preliminary agreement signed by Mr Pebereau on the following conditions: The automated switchboard must be compatible with the French network (the PTT's will have completed the tests by 15 February) and sold at the same price as domestic equipment (they will be manufactured by the French CGCT factory, which will export an amount similar to that produced by our network at a maximum of 16 percent of the government contracts). In the face of criticism, Georges Pebereau put forward "his arguments." According to him, the critical European dimension had to be achieved, which explains the merger between Cit Alcatel and Thomson (the English and the Italians are now in the process of regrouping in the same way).

To attack the American market, we need to have a partner: we may as well join up with the number one U.S. telephone company, ATT, while maintaining our technological and commercial independence. We cannot compete internationally and keep our own market totally closed.

There are risks, but there are also advantages: for instance, the CGE is going to make wireless beams for ATT and Philips and fill this slot.

b) In the long run, ATT will not be a partner but a competitor. There have been technical agreements for a year between the members of the "gang of four," Alcatel (France), Italtel (Italy), Plessey (Great Britain) and Siemens (Germany), to make way for the "European telephone exchange of the next generation." We must be absolutely sure that the French do not lag behind the Americans, as manufacturing products under license would prevent access to the world market.

Confusion

But there is also the private telephone industry. The CGCT, which will build the public exchanges for ATT, intends to joint with Philips for the private networks.

The CGCT president is consulting other potential partners. He had an offer from a group including Jeumont Schneider, Bull and the German firm Bosch-Telenorma, and another from Matra. It is very probable that giants such as ITT, whose president has vowed, "I will return to France," Northern, Plessey, or Siemens are also interested in the opening of the French market.

And, as the final accords between ATT and CGE will not be signed until after the lengthy technology transfer papers are drafted, which will take nearly 3 months, one of these monsters can always submit a proposal to the French government which is more interesting than ATT's, one that would cover both a public switchboard and the private telephone industry.

Could this be why Mr Fabius, who is satisfied with the protocol signed between ATT and Pebereau in June, has done nothing to speed things up, to say the least?

All of this confusion is surprising. But one must first understand that the stakes are enormous. For employment, and to obtain a share of a colossal world market, which will amount to $90 billion a year by 1988.

We must also consider the fact that the telephone industry used to be protected in all countries. The break up of the ATT monopoly led to a number of significant lawsuits by the Department of Justice, notably, while forty other suits involved the American group and various private firms as adversaries. There was a similar movement in the United Kingdom and Japan. It is not easy to leave the soft pillow of a government administration which reserved its orders for local industries. The nationalized company which used to benefit from it is demanding a more liberal policy, while private industry expects government intervention. What a paradox!

But this great debate was to be expected.

9805/12948
CSO: 5500/2564

ARIANE DELAYS POSTPONE TDF-1 LAUNCH UNTIL LATE 1986

Paris AFP SCIENCES in French 28 Nov 85 p 23

[Text] The launch of the French TDF-1 direct television satellite will probably be delayed by several months, being moved from July 1986 to October or November 1986 because of rescheduling in Ariane launches, in the opinion of specialists.

After the failure of the 15th launch of the European launcher rocket last 13 September, the Arianespace company has provided for changes in its launch schedule and the new satellite launch dates will be made public within the coming weeks.

However, agreed aerospace sources, it is now thought that the launch of TDF-1 will not occur before Fall 1986, in October or November, although it had been planned for July 1986. At Arianespace, this information has not been denied, any comments being reserved until the publication of the new schedule.

Similarly, the twin-satellite TV-SAT of the FRG, which was to be launched this coming May, must wait until June or July before taking its working place in orbit.

The launch of TDF-1, initially planned for 1985, had already been rescheduled because of design difficulties with some of its components (Thomson power amplifier travelling wave tubes). The satellite may, however, be launched with German-made (AEG-Telefunken) replacement tubes.

This first French television-broadcasting satellite, which will be followed in 1988 by TDF-2, represents a budget estimated at more than 500 million current francs.

Statements by Aerospatiale

The TDF-1 satellite is currently being assembled at the Aerospatiale factory in Cannes, stated a spokesperson for the French company. "The construction will occur according to the schedule promised to TDF's customers, that is, it will be ready to deliver in mid-July 1986," he added.

Concerning the design problems with some of the satellite components, Aerospatiale indicated that "the evaluation problem with the Thomson tubes (power amplifier travelling wave tubes) was circumvented by the installation of adaptors equally capable of accepting the AEG Telefunken or the Thomson tubes, if they are evaluated within a reasonable amount of time."

Finally, with regard to the launch schedule, the spokesperson emphasized that the launch delays which have been noted were not imputable to the satellite manufacturer, but instead to failures of the Ariane rocket motor engineers.

13146/12859
CSO: 5500/2551

FRANCE

BRIEFS

'INTELLIGENT' MINITEL IN 1987--A new generation of Minitels will appear at the beginning of 1987. The PTT has just ordered the first lot of "Minitel 20's" whose functions are strangely similar to those of professional microcomputers. Although the manufacturer and the PTT remain quite circumspect about its characteristics, we know that the Minitel 20 will be equipped with an Intel 8086 microprocessor, just as the IBM PC and IBM compatibles are. It will have a minimum of 256,000 characters of read-write memory, and will have several "slots," which allow various peripherals (additional memory, diskette readers, hard readers, hard disks, etc.) to be connected, which each user can do as he pleases. The big question is: Who will market this "super Minitel"? Certainly such a machine will not be distributed free to the telephone subscribers, as the Minitel 1 is. But is the sale of microcomputers among the duties of the administration of the post office and telecommunications public utility? The answer is still under study by the PTT. [Text] [Paris SCIENCES & AVENIR in French Nov 85 p 13] 13146/12859

CSO: 5500/2551

ICELAND

GREEN LIGHT FOR SATELLITE TV

Reykjavik NEWS FROM ICELAND in English Feb 86 p 24

[Text]

Satellite TV is on its way to Iceland, under a ministry of commerce regulation authorizing individuals and groups to set up dishes for receiving programmes beamed from abroad.

The new regulation is in fact more an official confirmation of an existing pattern. Four private antennas already stand out against the Icelandic skyline, including one on top of Reykjavík's Hotel Holt and another at the Soviet embassy, the source of a minor diplomatic incident when it appeared two years ago.

TV fans in search of more than the 30 hours a week screened by the State Television can now tune in to material from Europe, once the ministry is satisfied that viewing rights have been secured.

Several commercial television stations are about to go on the air under a new law which took effect in the New Year. The rights to commercial distribution of satellite material, however, whether by private or public bodies, remains with the Post and Telecommunications Administration, which will play a supervisory role in the issue of permits.

/9274
CSO: 5500/2589

NETHERLANDS

BRIEFS

ATT-PHILLIPS IN RACE--Eindhoven--ATT-Philips Telecommunications (APT) will take part in 10 of the 32 projects of the European telecommunications program "RACE." The two firms will jointly have available a total budget of 11.5 million florins, or more than 31 million francs. The European Community is assuming responsibility for half of the 270 million francs represented by the total cost of the 32 projects of the first phase of "RACE" research. The other half is invested by businessmen or establishments that wish to develop part of these projects. The first phase, which has already begun, will continue for a year. At the end of this period the European Council of Ministers will have to announce its final approval regarding the choice of a data communications network for integration of services (RNIS). ATT-Philips is particularly interested in microelectronics and optoelectronics, as well as terminals. [By Catherine Le Bailly] [Text] [Paris LA TRIBUNE DE L'ECONOMIE in French 19 Dec 85 p 6] 9434/12948

CSO: 5500/2567

SPAIN

INTELSA OPENS NEW RESEARCH CENTER

Madrid EL PAIS in Spanish 22 Jan 86 p 5

[Article by Azucena Criado]

[Text] This week INTELSA [Telecommunications Industries, Inc.], which is affiliated with Ericsson, the Swedish multinational, is opening a new research and development center. With this center it will change from being a recipient of technology from the parent firm in Sweden to the opposite role: henceforth it will provide technology for the Ericsson group in a number of basic lines. Its principal sphere of activity will be the development of telephone exchanges using the AXE system.

The establishment of this new center in Madrid cost over 200 million pesetas. In its initial phase, it will have a research staff of 60, which will be expanded to up to 120 research scientists within the next 3 years. Most of them will be trained in Ericsson's research centers in other countries. During this company's lengthy history--it is over 100 years old--it has always concentrated on the development of new internationally oriented communications systems. At present the AXE telephone exchange is manufactured under the Ericsson license in over 20 countries. In fact, only 5 percent of the firm's total sales are made in Sweden.

Combined Networks

Just a month ago, the National Telephone Company of Spain installed an AXE 10 digital network on an experimental basis. This is considered to be a step toward the possibility of providing access to multiple services from a customer's single line. The model installed by the National Telephone Company includes a digital telephone which, in addition to ordinary phone conversations, provides access to the number of the caller, which is identified and displayed on a screen.

Messages can be sent on this screen, and at any moment, by reading the counter, the total number of calls made can be determined. It is also possible to incorporate video and teletext terminals to provide access to data bases and to exchange documents between customers in different areas, even if they are not connected to a digital exchange.

Experts say that very few traditional telephone networks can be converted into digital networks immediately, so that combined networks will exist for quite some time.

The AXE system has already been installed in about 25 countries, partly because it is very versatile in adapting to existing networks. With its new processing system, AXE exchanges can handle 800,000 calls in 1 hour.

Technological progress in telecommunications is also concentrating on the use of optical transmission methods because of the enormous quantity of information which can be carried by optical fibers. With its annual production of 125,000 kilometers of optical fiber cable, Ericsson is in a strong position in the development and use of this technology.

7679
CSO: 5500/2573

END

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20 March 1986

Worldwide Report

TELECOMMUNICATIONS POLICY, RESEARCH, AND DEVELOPMENT

FBIS FOREIGN BROADCAST INFORMATION SERVICE

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20 March 1986

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FINANCE MINISTRY APPROVES BANK 'VAN' SERVICES

OW201339 Tokyo KYODO in English 1209 GMT 20 Feb 86

[Text] Tokyo, Feb 20 KYODO--The Finance Ministry Thursday allowed banks to start "value-added network" (VAN) services for providing sophisticated information related to funds and accounting to customers.

Four major commercial banks, including Dai-ichi Kangyo Bank, have already set up subsidiaries for undertaking 'VAN" services and registered them with the Posts and Telecommunications Ministry. But the Finance Ministry has withheld permission pending formulation of unified standards for "VAN" services of financial institutions. "VAN' services of banks are limited primarily to supply of information pertairing to funds and accounting. They are thus barred from undertaking large-scale "VAN" services projected by Nippon Telegraph and Telephone Corp. (NTT) and other firms.

The "VAN" service links different computer systems to provide sophisticated information. As a result, banks will nowbe able to supply a variety of high-priced information services, such as electronic mail, in addition to simple calculation service. The Finance Ministry has been easing curbs on various computerized banking services, including settlement by personal computer.

/9365
CSO: 5560/117

JAPAN

BRIEFS

BROADCAST SATELLITE LAUNCH POSTPONED--Tanbeashima, Kagoshima Pref., 11 February KYODO--Bad weather Tuesday forced the third postponement of the launch here of a broadcast satellite, the National Space Development Agency reported. Agency officials said the launch of Satellite B52b was put off until 4:56 p.m. Wednesday [120756 GMT] after warnings of a thunderstorm over the launch center. [Text] [Tokyo KYODO in English 0529 GMT 11 Feb 86 OW]
/12913

CSO: 5560/105

REPORTAGE ON SECOND TELECOMMUNICATIONS SATELLITE LAUNCH

Guided Into Orbit

HK210440 Beijing CHINA DAILY in English 21 Feb 86 p 1

[Article by staff reporters Liu Dizhong and Wang Gangyi]

[Text] China's second telecommunications satellite was successfully guided into permanent orbit at 5:00 pm Beijing time yesterday.

Launched into space by the nation's most advanced three-stage Long March-3 carrier rocket on 1 February, the satellite reached a geostationary position at 103 degrees E longitude over Sumatra, Indonesia, 35,786 kilometres from the earth.

The satellite is functioning perfectly for telecommunications, radio and television transmission and will be put into regular service soon, said an army officer of the command centre of the Commission of Science, Technology and Industry for National Defense.

The Central TV Station and the Central Broadcasting Station actually began transmitting news programmes last night via the satellite, the officer told CHINA DAILY. Satellite ground stations nationwide, including those in Gansu, Sichuan, Guizhou, Yunnan, Xinjiang, Tibet and other remote areas, reported "excellent results" in reception.

The party's Central Committee, the State Council and the Central Military Commission yesterday sent a joint message of congratulations to the scientists, engineers and workers involved in the project.

The successful positioning of the satellite, said the messages, showed that China had fully mastered the design and launch technology of carrier rockets and the techniques of tracking and controlling communications satellites.

It also showed that China's satellite communications had moved from the experimental-stage into the application stage, the message added.

"This achievement is of great significance in speeding up the nation's modernization drive and developing its space technology," it said.

The message urged all those involved in the project to work for new progress in communications, broadcasting and space technology.

China has launched 18 satellites of various types over the last 26 years. Its first telecommunications satellite was sent into space in April 1984 and was also placed in permanent orbit over Indonesia.

The new telecommunications satellite has been improved to raise efficiency, particularly to enlarge its telecommunications capacity, said Ding Henggao, minister of the Commission of Science, Technology and Industry for National Defense, in an exclusive interview with CHINA DAILY.

Plans have been made to launch more telecommunications satellites in future and efforts will be made to lengthen their service life, position them more accurately, and enlarge their telecommunications capacity, Ding said.

Other satellites will be launched to improve the nation's weather forecasting, natural resource surveying and in other areas, he said.

A long-term programme to develop China's space industry was being discussed, with emphasis on self-reliance, the minister disclosed.

But, he stressed, technological cooperation and exchanges with foreign countries would definitely be expanded.

Last night, vice premiers Tian Jiyun and Li Peng, and PLA leaders Yang Dezhi, Yu Qiuli, Zhang Aiping and Hong Xuezhi watcheda a TV and broadcasting transmission test at a satellite ground station in the suburbs of Beijing.

Transmission Quality 'Good'

OW202040 Beijing XINHUA in English 1958 GMT 20 Feb 86

[Text] Beijing, 20 Feb (XINHUA)--China's second telecommunications and broadcasting satellite, launched on 1 February and placed in its permanent orbit above the earth's equator today, proved to be good in transmitting TV and radio programs this evening.

Tests showed that TV pictures were clear, colors were bright and sound quality was good.

Satellite experts said that any part of the country can receive the TV and radio programs transmitted by the new satellite with a six-meter antenna.

Satellite ground stations in Hebei, Shanxi, Shaanxi, Gansu, Jiangsu, Shanghai, Hunan, Sichuan, Guizhou, Yunnan, Tibet and Xinjiang were reported to have received the CCTV program via the satellite.

Central Organs Congratulate Personnel

OW200926 Beijing XINHUA in English 0912 GMT 20 Feb 86

[Text] Beijing, 20 Feb (XINHUA)--The Chinese Communist Party Central Committee, State Council and Central Military Commission today jointly congratulated scientists and research workers on the successful positioning of China's second telecommunications and broadcasting satellite.

This success marks the fact that China has fully mastered carrier rocket technology, and that its satellite communications have moved from the experimental stage into the application stage, the message says.

"While encouraging the Chinese people of all nationalities tremendously, the achievement will significantly speed up the country's socialist modernization drive and help further develop its space technology," it adds.

The message attributes the success to the hard work of the scientists and workers who participated in the launch, tracking and control of the satellite.

"We must work even harder to make new contributions to the development of the country's communications, broadcasting and space technology," the message says.

'Performance Better Than First'

OW241112 Beijing XINHUA in English 1058 GMT 24 Feb 86

[Text] Beijing, 24 Feb (XINHUA)--China's second telecommunications and broadcasting satellite is performing better than the first, Astronautics Ministry officials said here today.

With the parabolic antenna to restrict its range to the territory of China, the second satellite is sending back stronger signals than the first one, which covers one third of the whole earth. This has greatly helped improve the reception of TV pictures, the officials said.

The communication capacity of the second satellite is five to six times that of the first.

China launched its second telecommunications and broadcasting satellite 1 Feb and placed it above the earth's equator 20 February.

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CSO: 5500/4144

PEOPLE'S REPUBLIC OF CHINA

XICHANG SATELLITE LAUNCH CENTER

HK230539 Beijing ZHONGGUO XINWEN SHE in Chinese 0317 GMT 20 Feb 86

[Report by Lin Hua [2651 5478]: "The Mysterious Valley--A Visit to China's Xichang Satellite Launch Center"--ZHONGGUO XINWEN SHE headline]

[Excerpts] Xichang, 20 Feb (ZHONGGUO XINWEN SHE)--Toward the end of the lunar year, grass begins to grow again. On the eve of the spring festival, a vast expanse of land to the north of Huang He was still covered by snow. However, the hinterland of Mt Liangshan, which is 1,800 meters above sea level and is the site of Xichange Satellite Launching Center, was another world in which the mountains were a dark green color. I was filled with wonder when arriving at this misty valley in the remote mountains, facing the towering spaceflight launching tower.

"The Best Window for Launching"

It is not easy to find the best place for building a launching tower in the vast 9.6 million square meters territory of China. Fifteen years ago, after exploration, aerial survey and hydrogeological investigation, Chinese scientists found this place in southwest Sichuan, which is a low latitude area with an ideal climate and a good angle for launching. The weather is like spring all the year round, being sunny and warm. It was learned that the weather in the nearby mountains was always cloudy and rainy, but this place was always fine and sunny. According to experts, the first four months of the year were the most opportune time for launching space carrier rockets because both the high altitude weather and the inclination of the earth's axis were favorable to launching. Therefore, the place was nicknamed "the best window for launching". Here I saw giant radars on the top of a misty hill, with antennae pointing at the sky in different directions. These antennae continuously probe the sky, and transmit various kinds of data and information to the ground station.

Modernization and the Semi-Civilized

The buildings of the spaceflight base were scattered on the slopes of the valley. Each quiet night, the starte in the sky and the lights on the ground add radiance and beauty to each other. With a gurgling mountain stream, the atmosphere was so impressive that it made one think of being in a mythical world.

All buildings here carried codes. The guesthouse we lived in was coded "No 2". The tall "No 5" plant was where the rockets underwent "thorough checks" after being delivered by rail from places far from here. The "No 6" building was the control hall which controlled the bases air-conditioning. Others, like the meteorological observatory, communications center, computing center and the laser motion picture transit [jiguang dianying jingweiyi 3423 0342 7193 1758 4842 4885 0308] also had their codes. In the base were modern building modern technological facilities and the people who supervised advanced science and technology for national defense. However, there were clay walls and huts scattered on the nearby slopes and along the road. They were the haunts of the Yi nationality, had "Cha'er Wa" (cloaks) draped over their shoulders, and carried with them their social customs and tradition. The Yis were very superstitutious in some areas. Their living standards were poor and they received little education. They called the launching of space rockets as "firing white cannons." After the construction of the spaceflight base began, the prospects for minority nationalities living nearby became unprecedentedly bright. Because of ease access and the improvement of conditions for tilling farmland, the Yi villagers living near the base have income increased year after year. Before long, the Yis living on Mt Liangshan no longer practiced slash-and-burn cultivation but pursued such commodities as bicycles, television sets and radio-cassette recorders. They had changed their living style from a semi-civilized to a modern one.

Xichang Opens to the Outside World

Xichang City is the seat of government of Liangshan Yi Nationality Autonomous Prefecture. It is also the living area of the satellite launching center. Scientific and technological personnel, experts and workers often travelled by shuttle bus to and from the base some 100 kilometers from the city. There is a flat asphalt road link to the valley. Scattered along the road are cottages and farmland surrounded by green bamboo. An experienced leader of Xichang Satellite Launching Center spelled out to me the prospects for the base. He said that the United States spaceflight center was in Houston, and the Xichang launching center would become the Houston of China. Following our recent success in launching a practical communications satellite, we planned to open the base to the outside. Satellite users from overseas would be welcome to visit here and negotiate business concerning the launching of satellites. In addition to having spaceflight facilities, Xichang City, nicknamed "little Kunming," is rapidly developing tourism. This mysterious valley will win worldwide appraisal with its unique glamor.

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CSO: 5500/4145

MICROWAVE SYSTEM BUILT BETWEEN GUANGZHOU, HAIKOU

HK120932 Beijing ZHONGGUO XINWEN SHE in Chinese 1357 GMT 29 Jan 86

[Text] Guangzhou, 29 Jan (ZHONGGUO XINWEN SHE)--The 1,800-circuit microwave communications system between Guangzhou and Haikou, a communications trunk line of big capacity built on the basis of using foreign funds to import Japanese equipment, was put into trial operation in late January. It is expected that the project will be handed to the user unit and be put into official use in mid-February.

This microwave communications system is designed by domestic units, and the main equipment--a 1,800-circuit microwave trunk line--is imported from Japan. Other supporting equipment, such as the carrier equipment, the power supply equipment, and microwave relay equipment, is all made by Chinese manufacturers. The whole system is automatic and does not need any human operators. It is monitored and controlled by a computer. The computer terminals can record and print the work processes of the communications system. The monitor screens can show the conditions of the whole line and all relay points.

This communications line passes through Huaxian County, Zhaoqing City, Gaoyao County, Yunfu County, Xinyi Country, Maoming City, Huazhou County, Zhanjiang City, Suixi County, Haikong County, and Xuwen County, then crosses the Qiongzhou strait and reaches Haikou City, with a length of 596 kilometers. After the line is put into use, the long-distance communications network in the western Guangdong area and Hainan Island will be linked to established microwave circuits in eastern Guangdong, between Guangdong and Guangxi, between Guangzhou, Shenzhen, and Hong Kong, and to the coaxial cable from Beijing via Wuhan to Guangzhou. The western Guangdong area will then have convenient long-distance telephone services to Hong Kong, Macao, and other large cities in China. Direct dialing in these long-distance telephone calls can also be realized. The new communications system can also be used to convey telex messages, data, newspapers, and photographs. It will be linked to the inner-island digital microwave circuit which is now under construction, and will then extend to Sanya City.

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CSO: 5500/4145

PEOPLE'S REPUBLIC OF CHINA

METEOR-BURST COMMUNICATIONS SURVEYED

Nanjing DIANLI XITONG ZIDONGHUA [AUTOMATION OF ELECTRIC POWER SYSTEMS] in Chinese Vol 8, No 2, Mar 84 pp 48-56

[Article by Jiang Xianning [1203 0752 1337], Power Research Institute, Ministry of Water Resources and Electric Power, and Wang Zhenzhuang [3769 7201 8269], Nanjing Automation Institute: "A Survey of Meteor-Burst Communications]"

[Text] Meteor-Burst Communications

With the rapid development of mini- and microcomputer technology, transmission involving brief reflection of radio signals from meteor trails has become an imporant means of long-range digital communication. The characteristics of such systems are: (1) at distances of up to 2000 km they are not subject to terrain limitations and direct point-to-point communication without repeater stations is possible, so that they have clear economic advantages; (2) transmission is stable and the channels are not affected by ionospheric noise, auroras, sunspot activity, or nuclear [as published] magnetic pulses produced by nuclear explosions; (3) the system structure is flexible, allowing ground-to-ground or ground-to-air communication with either fixed or mobile stations, and either single channels or systems that include hundreds of remote stations can be used; (4) meteor-burst communication uses intermittent, randomly appearing paths, and each transmission is completed within a few hundred milliseconds, offering excellent security. As a result, these systems are already used by many countries for civilian and defense communications.

Meteor-burst communication, also called meteor-scattering or meteor trail communications, uses the reflection of radio signals by the ionized trail of meteors for communications purposes. This type of transmission was first discovered in the late 1940's or early 1950's, but at that time computer technology was in its infancy and there was no way of using this intermittent phenomenon for communications, so that it received only brief descriptions in communications textbooks. In the middle 1970's, with computer technology developing rapidly, the United States, European countries and the

Soviet Union conducted large-scale, fruitful research on the mechanism and laws of meteor-burst transmission of radio signals and used computers to develop special communications forms suited to meteor-burst communications which stored and buffered the intermittent random signals and detected and corrected errors, thus producing a new digital communications technology. In meteor-burst communication systems a master station and many remote stations form star networks. In addition, several master stations can be formed into a repeater system of the store-and-forward type, resulting in a large-scale data network with any desired number of remote installations. Systems of this type are used for long-range, scattered, wide-area data acquisition networks and for exchange channels. They can transmit all kinds of digital data, text, stationary image information and the like. Remote installations can be combined with tracking equipment to perform vehicle, ship or aircraft tracking. When these systems are in operation, the master station sends out an address and command signal which is reflected to the remote station by a suitable meteor track; when the remote station receives the signal, if the address is correct it is ordered to start up its own transmitter and send waiting data to the master station via the path already established. Because each meteor burst lasts only a fraction of a second, continuous data must be broken up into several blocks for transmission, continuously taking advantage of new meteor trails.

Types of Meteor Trails and Their Formation

Meteors, or space dust, are extraterrestrial material that orbits the sun with a specific period and has elliptical orbits largely similar to that of the earth. Everyone is familiar with the magnificent phenomenon of meteor showers, in which groups of meteors distributed over their orbits with various densities collide with the earth. Their appearance follows regular patterns. Meteor showers represent only an extremely small proportion of the total number of meteors observed. Those that can be used to reflect radio signals for communication purposes are numerous, irregularly appearing single meteors (the term "irregular" indicates their randomness and unpredictability).

In the earth's orbit, some meteors are swept up by the earth, while others catch up with it; when their relative speeds reach 10-75 km/sec, the kinetic energy with which the meteors enter the atmosphere is released during collisions with air molecules and converted to large amounts of heat, which vaporizes molecules on the surface of the meteor; these continue to experience friction with air molecules, so that they lose their outer electrons and become ionized. In this way, a tail consisting of groups of positively charged ions and free electrons forms behind the meteor; we call it a meteor trail.

Research has shown that the factor causing reflection of radio signals is the effective surface area of the charged ions in the trail, which is generally denoted by σ . The equation is

$$\sigma=\frac{8}{3}\pi(e^2/m\cdot C^2)^2$$

where E is the charge, m is the mass of the charged ions, and C is the speed of light. Calculations indicate that the value of σ for eledtrons is 10^9 times that for oxygen and nitrogen ions. Thus the free-electron cloud in meteor trail is the key factor in the reflection of radio waves. The meteor trails can therefore be classified in terms of the initial linear electron density (i.e. the number of free electrons per unit path). As a rule the linear electron density in usable meteor paths is between 10^{10} 10^{16} electrons/meter. It is generally denoted N, and $N=10^{14}$ is defined as the critical density, equivalent to the linear electron density produced by meteor ionization in an area 1 mm in diameter. A trail with $N > 10^{14}$ is called an overdense trail, and a trail with a $N \leqslant 10^{14}$ is called underdense.

Overdense trails exhibit metallic reflection of radio waves, which cannot pass through them, so that the reflected signal has a high level, a rather long tail, and fluctuation. Some of them even exhibit signal fading. As the wave frequency decreases, fading becomes severe.

Underdense tracks have almost no effect on radio wavefronts, and the waves can pass through them; when they do, the electrons are excited by the varying electromagnetic field and brought into resonance with it, forming pairs of small "dipole" antennas which act as secondary emitters in the trail. The rise time of secondary-emitter signals from the trail is short and the amplitude drops off exponentially.

To summarize, both overdense and underdense trails can propagate radio signals and produce meteor-burst communications. The incident and reflected radio waves are at the same angle to the trail.

Optimal Communications Distances for Meteor-Burst Systems

Usable meteor trails are generally 85 to 115 km above the earth (see Fig. 1). When they occur in the atmosphere, they form elongated paraboloids with an initial head radius of about 1 m and a tail length of about 25 km. By drawing the tangent from the center of the trail to the earth's surface we can calculate the maximum communication range L_{max} for the system:

$$L_{max} \doteq (8 \cdot h \cdot R)^{\frac{1}{2}}.$$

Let h (the altitude of the trail) = 100 km, and R (the earth's radius) = 6,370 km, then L_{max} = 2,280 km, very close to the measured value of 1,100 miles. Experiments show that meteor-burst communications systems do not have a lower range limit, i.e. they can cover the distance range from 0 (line of sight) to 2,000 km. Studies of the data throughput capacity of meteor-burst communication systems as a function of distance have shown that there is a distance range in which the throughput is at a maximum (see Fig. 2). It can be seen from the curve that the range between 600 and 1,400 km is the optimum transmission distance. For short distances the throughput decreases somewhat, to a minimum of 60 percent of the optimum value. When the distance exceeds 2,000 km the throughput drops off sharply and the path is interrupted. For channels requiring distances greater than 2,000 km, the store-and-forward technique is used to form relay systems.

Spatial Distribution of Effective Reflecting Area

In real meteor-burst communication systems it is most important to understand the distribution of the most important and most suitably located meteor paths between stations. Measurements indicate that at a given time there is a most effective reflective area in space. An azimuth diagram can be plotted from measurements, as shown in Fig. 3. It can be seen that the horizon circles having line AB as diameter and the zenith areas vertically above line AB are blind areas in terms of reflective ability; these areas are indicated by zeroes in the figure. The area marked with "100" on the figure is the most effective reflection region; it generally forms an angle of 20-30° with line AB. When a meteor-burst communications channel is established, the antenna should be pointed toward these regions.

In addition, the location of the effective reflecting region changes from day to night; the pattern of its variation changes with the path orientation. Fig. 4 shows the optimum antenna angles during the day and night hours.

Effective Duration of Meteor Trails

The size of the meteor and the speed at which it enters the atmosphere determine how long the trail persists. Heavy, fast meteors have persistent trails. After the trail is formed, it diffuses rapidly; the free electrons can always recombine, and high-altitude winds can distort the trail or break it up into sections. These factors cause the trail to lose its effectiveness. Usually the diffusion coefficient D is used as a measure of the diffusion rate of the trail. It generally is between 1 and 10 m^2/sec. The effective duration of the meteor trail is one of the basic characteristics used in determining the throughput of a system. In addition to the diffusion coefficient, it is also related to the direction of the trail, the communication range, the frequency used, and equipment characteristics. The direction of the trail is random, but the duration of "usable" underdense trails can be expressed as follows

$$\tau = \frac{\lambda^2 \cdot \sec^2\phi}{16\pi^2 \cdot D}$$

where λ is the wavelength, ϕ is half the angle between the incident and reflected rays, and D is the path diffusion coefficient. The effective duration of overdense trails is directly proportional to the linear electron density. A typical duration for a meteor path is between 0.2 and 0.6 seconds. Some publications use the waiting time (twice the interval between effective paths) to indicate the functional capability of the system, and in some cases the throughput capacity is used as an aggregate index of system capabilities. These factors all measure system capabilities in terms of various secondary factors and are not fundamentally different.

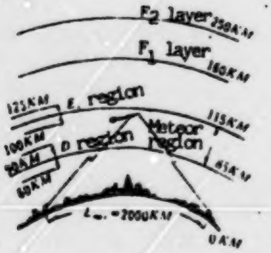

F2 layer 250KM
F1 layer 160KM
125KM
E region
115KM
100KM
Meteor region
D region
90KM
85KM
60KM
L = 2000KM
0KM

Fig. 1. Meteor-burst communications system

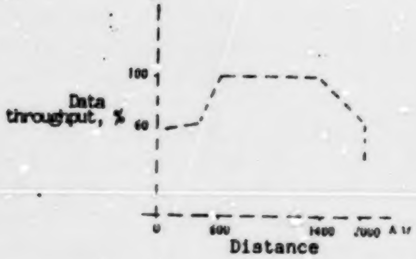


Fig. 2. Throughput as a function of distance

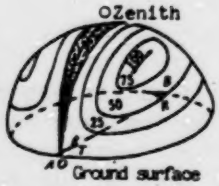
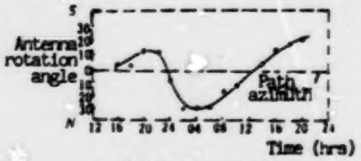
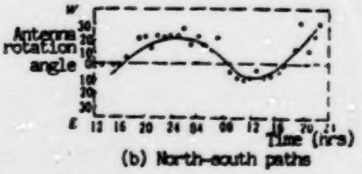

OZenith
100
75
50
25
R
T
Ground surface

Fig. 3. Spatial distribution of effective reflection area



(a) East-west paths



(b) North-south paths

Fig. 4. Variation of optimum antenna azimuth from day to night

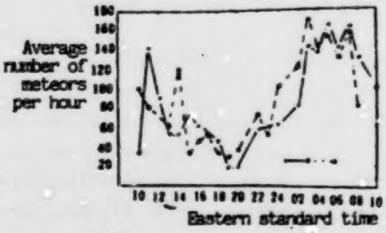


Fig. 5. Change of trail occurrence probability from day to night

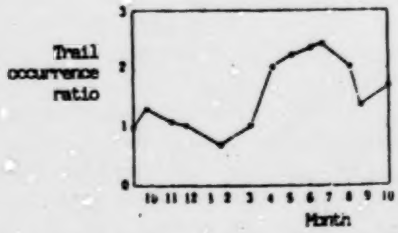


Fig. 6. Seasonal change in trail occurrence probability

Meteor Occurrence Probabilities and Patterns of Occurrence

Prolonged observations indicate that in addition to the approximately 20 major meteor showers, irregularly occurring meteors enter the atmosphere with frequencies inversely proportional to their masses. Observed meteor occurrence frequencies are given in Table 1. It is evident that every day about a billion meteors produce trails in the atmosphere. These are the basis for meteor burst communications. But the trail probability is not uniformly distributed over time. A random distribution is rather evident in the observation statistics for short periods, but for observation statistics for longer periods and plots of the average number of occurrences per unit time show regular differences in meteor occurrence probabilities by season, between day and night, and even with the latitude of the communication path. Mastering and using these patterns is an important stage in mastering meteor-burst communications.

In July the number of meteor trails per unit time is clearly several times greater than that in January (the empirical figure is 4:1). Within a given day, the number at dawn is much greater (about 3:1) that at dusk. At the Equator, the variation in probability between daytime and night is greater than in the vicinity of the poles, while the seasonal variation is greater at the poles than at the equator. Figs. 5 and 6 give statistics for certain paths, showing differences in the number of meteor trails both from day to night and by season.

The changes in the number of trails can be explained as follows. The nonuniform distribution of meteors in their orbits produces the seasonal variation in the number of trails. The variation between day and night is related to the earth's rotation and revolution and the inclination of its axis. Since in the morning one side of the earth is always on the advancing side of the earth's direction of revolution, meteors overtaken by the earth and meteors colliding with it head-on can both be detected in the morning, while on the evening side only meteors with speeds greater than the speed of the earth's revolution can produce detectable trails. Thus the number of trails appearing in the evening is less than that in the morning. But even in the evening in January, when the probability of occurrence is lowest, the detectable number of usable meteor trails is at least 3 per minute.

Characteristic Parameters of Meteor-Burst Communication Systems

Working Frequency: The power reflected by the meteor trails to the receiver is inversely proportional to the cube of the frequency. Thus the power drops off sharply as the frequency is increased; the receiver's capabilities determine the upper limit of the usable frequency range. Conversely, as the frequency decreases there is a marked increase in fading of the reflected signal. Taking both of these factors into account, the frequency range usable for meteor-burst communications is between 30 to 200 MHz. Experience indicates that transmission attenuation increases rapidly above 50 MHz, while below 40 MHz the antenna must be too large. The working frequency recommended by the Scientific Radio Services (SRS) company (United States) is between 40 and 50 MHz. Of course the specific selection must be made with reference to the surrounding environment in order to prevent interference. The permitted channel bandwith in the United States is 5 kHz. Permission from the cognizant organization is required for broad-band channels (wider than 5 kHz).

Emitted Power; Increasing the emitted power will decrease waiting time, and relatively weak trails will be usable, thus increasing system throughput. But at high powers, antenna sidelobe interference increases correspondingly, and power supply requirements also rise. The emitted power of the master station equipment supplied by SRS is either 1000 or 500 W; and that of its remote or mobile stations is 300 W (instantaneous pulse power).

Receiver Threshold: For digital transmission paths, the receiver threshold is defined as the minimum receivable signal level for a given error rate; it is a function of the modulation type, the receiver noise figure, the environmental noise level at the reception site, and the permitted error level of the terminal equipment. A low threshold decreases channel waiting time. If a meteor-burst system operating at 45 MHz uses coherent biphase PSK (pulse shift keying) modulation, with a data rate of 4 kb/sec and a bit error rate [BER] of less than 10^{-3}, the receiver threshold level will be -113 dBm.

Antenna Gain: When the antenna gain is increased, the power at the reception site is correspondingly increased, but this does little to increase system throughput, because increasing antenna gain means narrowing the directivity pattern which decreases the effective reflecting area covered in the sky, thus cutting down on the ability to utilize meteor trails. Thus medium-gain antennas are usually used, e.g. 5-element Yagi antennas or 10-dB isotropic antennas.

Data Rate. The effective duration of a meteor trail is only a fraction of a second. Experience shows that to achieve a suitable data transmission capability during this time interval while satisfying necessary formatting requirements, the data rate must be at least 1 kb/sec. A rate of 2-4 kb/sec is usually used; higher rates are subject to bandwidth restrictions. For coherent PSK modulation, the maximum transmission speed must be less than half the permitted channel bandwidth.

Remote Station Density Limitation

Because the beam reflected from the meteor trail is highly concentrated, the path between two sites formed by a specific trail is the only possible one. The projection of the reflected beam on the earth's surface, i.e. the reception area, is usually called its "footprint." Typical footprint dimensions are 34-40 km long and 8 km wide

40-50 km is the density limit for remote stations, and also the limiting factor for communications security. When the remote stations each have a distinctive address code, the system is not constrained by these conditions.

Control Functions of Master and Remote Stations

Master Station Control. There are currently three types of station equipment used in meteor-burst communications systems: master stations SRM-510 and SRM-520, which are full duplex and half duplex respectively, remote data terminal SRM-550, and remote communications terminal SRM-540. Block diagrams of these systems are given in Fig. 7. Each type is computer-controlled. The master stations use minicomputers and the remote stations microcomputers: in all cases the software can be altered to provide special system capabilities.

The master station controls the communications protocols and the processing and output of received information. Received data can be sent automatically to a printer or screen display, transferred to memory for tabulation, or transmitted over a telephone channel via a modem.

The master station is usually equipped with a 500 or 1000 watt transmitter and a receiver, with a duplex or half duplex antenna switch, an antenna, and a minicomputer system.

The master station transmitter includes a crystal controlled oscillator-modulator, a radio-frequency amplifier, a transmitter interface and a power supply. The oscillator drives a PSK modulator, which is followed by a low-level buffer amplifier. The radio frequency signal is amplified by a class C solid state amplifier before being fed to the power amplifier stage. The transmitter interface is used for buffering and signal conditioning between the exciter, preamplifier, computer, and status and control system.

The master station receiver includes three circuit cards: a radio frequency and intermediate frequency mixer, a modulator, and a self-testing module that drives a status card. On the panel are a receiver noise meter and test points, allowing internal control functions to be monitored.

The output of the crystal-controlled radio frquency and intermediate frequency mixer (1 MHz) is fed to a low-index linear phase-locked loop (PLL) frequency shift keying-controlled [as published] demodulator to provide carrier synchronization and bit detection. The data output of the modulator is sent to the computer via the control logic interface.

The self-testing module continuously monitors the operating status of the master station so that the operator can determine whether a fault exists. The self-test data modulates a test amplifier whose input is received by the master station receiver; the received data are stored in the computer for comparison with the original test data, making it possible to test the main station's receiver and computer.

Table 1. Numbers, dimensions and mass of meteors

	Mass m (grams)	Radius r (mm)	Number of meteors of mass m or greater swept up by earth per day	Linear electron density (number of electrons per meter of trail length)	
Meteors passing through atmosphere to earth's surface	10^4	80	10		
Meteors totally destroyed in atmosphere	10^3	40	10^2		
	10^2	20	10^3		
	10	8.	10^4	10^{18}	Overdense
	1	4.	10^5	10^{17}	
	10^{-1}	2.	10^6	10^{16}	
	10^{-2}	0.8	10^7	10^{15}	
	10^{-3}	0.4	10^8	10^{14}	Underdense
	10^{-4}	0.2	10^9	10^{13}	
	10^{-5}	80×10^{-3}	10^{10}	10^{12}	
Near limit of radar detection	10^{-6}	40×10^{-3}	10^{11}	10^{11}	
	10^{-7}	20×10^{-3}	10^{12}	10^{10}	
	10^{-8}	8×10^{-3}	?		
Meteor dust (particles unchanged by collision with atmosphere, become suspended in it	10^{-9}	4×10^{-3}	Total estimated to be 10^{20}	Almost none	
	10^{-10}	2×10^{-3}			
	10^{-11}	0.8×10^{-3}			
	10^{-12}	0.4×10^{-3}			

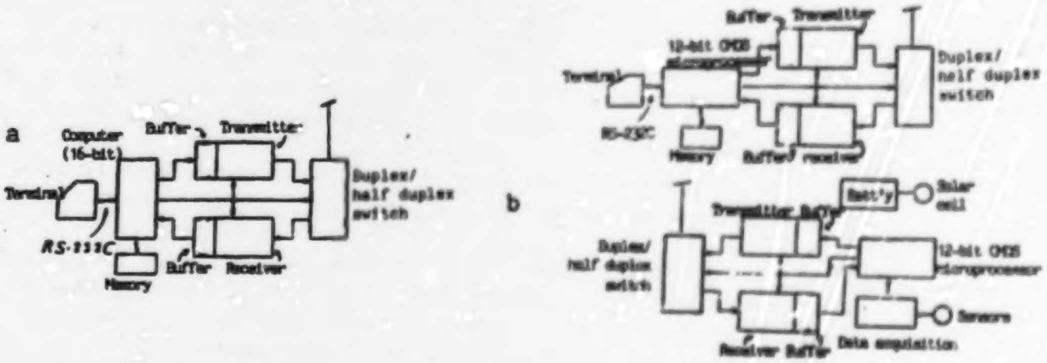

a
Computer (16-bit)
Buffer
Transmitter
Terminal
RS-232C
Memory
Buffer
Receiver
Duplex/ half duplex switch
b
Buffer
Transmitter
12-bit CMOS microprocessor
Terminal
RS-232C
Memory
Buffer
receiver
Duplex/ half duplex switch
Batt'y
Solar cell
Transmitter
Buffer
Duplex/ half duplex switch
12-bit CMOS microprocessor
Sensors
Receiver
Buffer
Data acquisition

Fig. 7. (a) SRM-510 and 520 master stations; (b) SRM-550 and SRM-540 remote stations

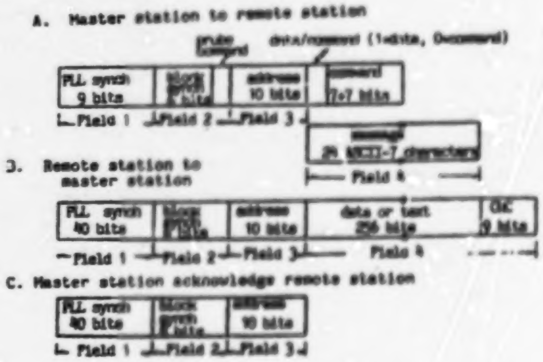

A. Master station to remote station
probe command
data/command (1=data, 0=command)
PLL synch 9 bits
address 10 bits
command 7+7 bits
Field 1
Field 2
Field 3
message 24 ASCII-7 characters
Field 4
B. Remote station to master station
PLL synch 40 bits
address 10 bits
data or text 256 bits
CRC 9 bits
Field 1
Field 2
Field 3
Field 4
C. Master station acknowledge remote station
PLL synch 40 bits
address 10 bits
Field 1
Field 2
Field 3

Fig. 8. Communications formats

The SRM-510/520 master stations communications processor includes a NOVA 4/C minicomputer, a general-purpose interface card and an operator terminal. The user system can include any 16-bit general-purpose computer equipped with 64K of internal memory, a real-time clock, an automatic restart circuit for power failures, and a backup battery power supply. Eight-inch floppy disks are usually used for storage.

The computer is connected to the operator console by an RS-232C interface for automatic control of master station operation. An additional RS-232C output port is provided for interfacing with another computer or other peripherals. The control logic interface board housed in the NOVA 4/C chassis provides interfacing between the transmitter, receiver and computer.

The master station antennas are typical Yagi or log-periodic single elements with a gain of 10dB mounted on 35- to 40-foot towers. Duplexers are used on single antennas to block transmitter noise on the receiver frequency and to block the tranmitter signal out of the receiver in order to prevent receiver overload.

Remote Station Control: The SRM-500 series remote station terminals include a 300W solid state transmitter, a receiver, and an Intersil 6100 12-bit C-MOS [complementary metal-oxide-silicon] microprocessor, used for data acquisition, processing, message protocol formatting, and transmission control. The data terminal has a switch-selectable address code to allow on-site maintenance and interchangeability of units. A portable terminal can be connected to the transceiver in the field by means of an RS-232C interface capable of passing 300 bits/sec [bits/sec in original].

In half duplex operation the remote station transmitter is usually off; it is turned on only when a probe signal including the address is received, -at which time it responds with a message or data block. Transmission proceeds continuously under control of master station commands until all of the data have been sent or the meteor trail has been lost.

The remote station transceiver is usually provided with a dipole or Yagi antenna. It is generally powered by batteries, which can be recharged from AC mains or solar batteries. When it is used for data acquisition, standard sensor interfacing can be provided for reception and transmission of data. Each remote station has capacity for 16 input sensors, each with a data resolution of 12 bits.

The remote station can also be made into a communications terminal by means of an RS-232C interface, allowing communication with the master station via an alphanumeric keyboard. When setting up the station or during equipment testing and maintenance, companion test equipment can be connected. The remote station's microprocessor temporarily stores the data and controls the execution of message transmission protocols. The master station acknowledges receipt of the complete message or data blocks with an acknowledge signal.

A Unique Communications Protocol

Because, in contrast to an ordinary channel, a meteor-burst communication channel is intermittent, and because the intervals between connections and the lengths of connections are random, a special protocol is needed for correct communications.

The signal sent from the master station to the remote station is used to establish the channel and to define the type of communication. A typical signal format is shown in Fig. 8A. It is divided into four fields. Field 1 is 9 bits long and is used for phase-locked loop (PLL) synchronization in the receiver. Field 2 is 8 bits long: the first 6 bits are used for group synchronization and the last 2 give the probe command, indicating whether data are to be transmitted or a command received. Field 3 is a 10-bit address field, giving the address of the remote station. Field 4 is a variable-length field: it is 15 bits long for commands, while for data up to 24 7-bit characters can be added. The first bit in field 4 is used to indicate whether the characters that follow are commands or data. The signal from the master station to the remote station can be of three types: (a) a general probe signal to all remote stations, in which case only the first two fields are used; (b) a probe command designating a specific remote station, in which case the address field is added to the first two fields; (c) transmission of a command or data block to the remote stations, in which case four fields are used.

A signal from a remote station to the master station also includes four fields, as shown in Fig. 8B. The difference is that field 1 is 40 bits long in order to assure reliable PLL synchronization of the low-index PSK receiver. Field 2 is only 6 bits long; the probe command code is eliminated. Field 3 is a 10-bit address, which is required in multipoint communications. Field 4 is the message field, 256 bits long, with a 9-bit cyclic redundancy check code (CRC) block at the end.

The master station responds to the remote station with a special 3-field message which confirms that the message sent has been correctly received. This allows use of the message-piecing mode.

When the master station is operating in the half duplex mode, it sends a short probe signal, then waits for a reply. It sends the signal out repeatedly until a channel is established. The communication process uses a 50 percent duty cycle and continues until the message is completely transmitted or the meteor channel is lost.

In the message-piecing mode, if the channel is interrupted before the message has been fully transmitted, the master station sends out a probe signal containing a command in order to find a new meteor trail and establish a channel; the command in the probe signal instructs the remote station to resume transmission from the point at which communications were interrupted and to complete the message.

In the single-block transfer mode, if a certain block is not fully received, the master station does not send out an acknowledge signal, and this block will be automatically repeated until the master station acknowledges.

In a full duplex system it is possible to know exactly where the message was lost, and accordingly the probe signal can tell the remote station at which block to resume sequential transmission. In addition, a 9-bit cyclic redundancy checking code in the received signal is used to identify blocks that contain errors, after which a probe signal is used to send out an automatic retransmit request.

The above is a simple description of the data transmission protocols used in meteor-burst communications. A typical meteor burst communication system consists of many remote stations arranged in a star network, reporting to a single master station, so that the above three types of protocols can be used to achieve normal data transmission.

Operating Experience with Meteor-Burst Systems

SNOTEL and AMBCS are two large state-run meteor-burst communications systems that are already in operation in the United States. They were established in the middle and early 1970's respectively and implemented in 1976-1977.

The system's data throughput capacity is usually measured by the aggregate data throughput rate, which is affected by the data transmission speed and the mode of operation (broadcast, duplex, half duplex).

Operating experience with the Snotel system indicates that with the master station in the full duplex mode and the remote station data terminal in half duplex mode, a short data block generally can be transmitted in 2 minutes or less. With the master station and all remote stations using full duplex operation, the communications throughput for the system can exceed 100 b/sec. If the half duplex mode is used throughout, the throughput is 70 percent that for full duplex operation.

The broadcast mode cannot compare with the above type of operation: it is suited only for communication of brief messages from the master station to a group of remote stations. In the Snotel system, when short-message-block addressed communications is used, the master station can communicate with 60 remote stations in the course of 5 minutes.

Although use of a full duplex master station increases the cost by about 20 percent, it results in rather high speed for remote station communications. Currently most of the remote stations are in the half duplex mode, allowing rather simple equipment to be used. The remote station transmit cycle is much lower than that of the master station, because remote stations begin transmission only on receipt of a command from the master station. As a result, the remote station's power supply and heat-sinking requirements are minimized.

The Ambcs system is a transcontinental system used to transmit weather data and agricultural information, for flight data acquisition, and for teletype communications for field surveys. It is a full duplex system that includes several master stations using the store-and-forward technique to increase the communication range to far more than 2000 km.

Meteor-burst systems can also operate in combination with other communications sytstems; they are ideal for remote data acquisition. The automatic monitoring and reporting network in the BPA power system (United States) has a 400-km channel that uses meteor-burst communications.

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8480
CSO: 5500/4138

GUANGXI BEGINS CONSTRUCTION OF BROADCASTING, TELEVISION CENTER

HK230415 Nanning Guangxi Regional Service in Mandarin 1100 GMT 20 Feb 86

[Excerpts] The construction of the main building of the Guangxi Broadcasting and Television Center commenced today. The height of the building is 99.5 m and its area 10,854 square meters. The construction of the 20-storey main building of the Guangxi Broadcasting and Television Center began formally. It is situated on Qiyi Road, Nanning, on the west side of the Regional Broadcasting and Television Station which has been completed and is in use. This is the tallest building now under construction in Nanning City. The total cost of the building is 6.45 million yjan and the period of construction 18 months.

This afternoon it was exceptionally fine, the colored flags were fluttering in the wind and the sound of gongs and drums was deafening at the Guangxi Broadcasting and Television Center main building worksite. The ceremony to mark the commencement of construction began at 1500 hours. Attending the ceremony were Wei Chunshu, chairman of the Regional People's Government; (Zhang Yang), deputy director of the Propaganda Department of the Regional CPC Committee; responsible comrades of the Regional Construction Committee, Regional Broadcasting and Television Department, Regional Comprehensive Design Institute, and Regional Material Bureau; plus some 200 staff members and workers. The ceremony was presided over by (Deng Shengcai), deputy cirector of the Regional Broadcasting and Television Department. (Chen Ning), acting secretary of the Regional Broadcasting and Television Department Party Group and deputy department director, spoke first.

Wei Chunshu, deputy secretary of the Regional CPC Committee and chairman of the Regional People's Government, spoke [Being Wei recording] Comrades! The construction of the main building of the Guangxi Broadcasting and Television Center begins now. This is a great and joyous event for the broadcasting and television front in our country. On behalf of the Regional CPC Committee and Regional People's Government, I extend warm greetings. [end recording]

[Chen Leiqing), responsible person of the Regional Construction Committee, and a representative of the construction unit--Second Regional Construction Company--also spoke at the ceremony. Wei Chunshu, chairman of the Regional People's Government, cut the ribbon at the ceremony to mark the commencement of the construction of the main building of the Guangxi Broadcasting and Television Center.

/6662
CSO: 5500/4145

PEOPLE'S REPUBLIC OF CHINA

GUANGDONG TO EXTEND RURAL TELEPHONE FACILITIES

HK180431 Beijing ZHONGGUO XINWEN SHE in Chinese 0123 GMT 14 Feb 86

[Text] Guangzhou, 14 Feb (ZHONGGUO XINWEN SHE)--Guangdong Province plans to install telephones in 75 percent of its rural villages within this year.

At present, about 65 percent of Guangdong's rural villages have telephones. This province ranks first in the whole country in terms of the total capacity, degree of automation, and the number of users of rural telephones.

The Post and Telecommunications Departments said: Guangdong Province this year plans to build 49 new telephone exchange stations in the countryside, and to add 31,800 new minor exchanges. Guangdong will for the first time, use 24-circuit wave carrier and PCM [letters in English, not further expanded] equipment, and will open 1,000 truck lines in order to increase rural telephone users by 15,000.

The installation of rural telephone equipment and the transformation of the trunk automatic exchange in Shunde County have been listed as key projects in Guangdong's telecommunications construction this year.

The 400-circuit program-controlled central exchange in Shunde County, the 300-circuit exchange in Zhongshan City, and the central exchange in Xinhui County will all be operational soon.

Other telecommunications facilities which will soon be in operation include the 300-circuit microwave line between Shiqi and Xiaolan towns and the 60-circuit microwave lines between Shiqi and Nanpu, Panyu County and Dagang, and Chaoyang County and Xiashan town.

Dongguan City will start the project of installing a 14,000-circuit program controlled exchange, and Zhongshan City will start installing a 1,600-circuit exchange and laying an optical cable.

At present, there are more than 200,000 rural telephones in Guangdong Province, 30,400 of them being automatic. In addition, 1,595 townships have set up their own telephone exchanges.

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CSO: 5500/415

BRIEFS

SHAANXI POSTS, TELECOMMUNICATIONS PROBLEMS--A provincial conference on posts and telecommunications work concluded on 16 January. Vice governors Sun Kehua and Zeng Shenda spoke during the meeting. Zeng Shenda dealt with the question of how to develop posts and telecommunications in Shaanxi, giving three views: 1. Speed up the development of posts and telecommunications. At present it is rather difficult to have a telephone installed in large and medium cities in Shaanxi, such as Xian, Baoji, Xianyang, and Hanzhong, and they also suffer from a serious shortage of trunk lines. There are major problems in being unable to put calls through. This situation urgently needs improvement. 2. We must maintain the principle of having the state, the localities, the collectives, and individuals work together to tackle posts and telecommunications work. 3. Attention must be paid to building spiritual civilization, improving telecommunications quality, and providing better service. [Excerpts] [Xian Shaanxi Provincial Service in Mandarin 2300 GMT 16 Jan 86 HK] /6662

GUANGDONG BROADCASTING, TELEVISION WORK--During the Sixth 5-Year Plan period, broadcasting and television work in Guangdong Province developed relatively greatly. The number of broadcast transmissions increased from four in the Fifth 5-Year Plan period to six in the Sixth 5-Year Plan period. The total number of broadcasting hours a day increased from 50 to 84. The province built a stereo station, the first one in China. The number of television transmissions increased from one during the Fifth 5-Year Plan period to three during the Sixth 5-Year Plan period. The total number of television hours increased from 5 to some 21. The rate of broadcast coverage increased from 53 percent of the provincial population during the Fifth 5-Year Plan period to 70 percent during the Sixth 5-Year Plan period. The rate of television coverage increased still more quickly. [Summary] [Guangzhou Guangdong Provincial Service in Mandarin 1000 GMT 23 Jan 86 HK] /6662

XIGANG TV VIA CHINESE SATELLITE--At 1830 on 20 February, the Lhasa ground station received television programs relayed through the telecommunications satellite which was researched and manufactured by China and launched by China on 1 February. The picture on the television screen was clear and the accompanying sound was distinct. According to the direct observation of the relevant technological personnel, the relaying effectiveness of the telecommunications satellite China researched, manufactured, and launched is comparable to that of the international telecommunications satellites now in use. At 1900, Dangzin, deputy secretary of the regional CPC committee, and responsible comrades of the regional radio and television bureau watched at the ground station, the news hookup program of the central television station which was relayed through China's telecommunications satellite. [Excerpt] [Lhasa Xizang Regional Service in Mandarin 1130 GMT 21 Feb 86 HK] /6662

YUNNAN SATELLITE GROUND STATION--Jointly developed by the Provincial Research Center for Electronics Industry and No 784 Plant under the Ministry of Electronics Industry, the 6-meter antenna (Fan Zhong) Satellite Ground Station project was put into operation in Kunming in early February. The color television picture received by the station was sharp and clear, and the quality of sound accompaniment was also good. The leadership, specialists and technicians concerned, who visited the station, spoke highly of the results. At present, the provincial research center and factories concerned in the province are making preparations for producing large scale facilities for supporting the station. It is expected that this year, the factories will produce 100 sets of equipment for satellite ground stations. This creates good conditions for building satellite ground stations in prefectures, autonomous prefectures and counties; and for the reception of good, direct satellite television programs by the people. [Text] [Kunming Yunnan Provincial Service in Mandarin 1100 GMT 23 Feb 86 HK] /6662

HAINAN SATELLITE STATIONS--Guangzhou, 4 Feb (XINHUA)--Three satellite relay stations have gone into operation on Hainan island, enabling most TV viewers there to receive direct broadcasts of China Central TV programs. One station went into operation in the southern island's capital of Haikou today. The other two began operating in Qionghai County and at a state farm late last month. Previously, Central TV programs had to be recorded in this Guangdong provincial capital, and then sent to the island on video tapes the next day. The relay stations have been built with funds raised by local authorities and businesses, a Hainan official said. Homes on 95 percent of the island can now pick up TV broadcasts. [Text] [Beijing XINHUA in English 1500 GMT 4 Feb 86 OW] /6662

CSO: 5500/4144

BRIEFS

BEN TRE WIRED RADIO--The wired radio network in Ben Tre Province has now expanded to villages, city wards, production collectives, cooperatives, factories, and schools with 237 small and large radio sets and 10,600 loudspeakers. The provincial authorities are now focusing on improving the quality of this wired radio network to permit the people [to] hear the voices of the party and state quickly. [Summary] [Hanoi Domestic Service in Vietnamese 0500 GMT 12 Feb 86 BK] /9274

HA TUYEN RADIO NETWORK--Since 1980, Ha Tuyen Province has established 128 wired radio stations in the border areas. This is aimed at improving the quality of the task of propagandizing and educating party and state policies and lines among the local people and armed forces. [Summary] [Hanoi Domestic Service in Vietnamese 0500 GMT 19 Feb 86 BK] /9274

CSO: 5500/4325

BILATERAL INFORMATICS PROJECTS WITH ARGENTINA

PY262239 Sao Paulo O ESTADO DE SAO PAULO in Portuguese 25 Feb 86 p 39

[Text] Brazil and Argentina will develop nine pioneer projects in the informatics field, within the framework of the bilateral cooperation program which has been signed by the two countries. This was the main conclusion of the first EBAI [Brazilian-Argentine Informatics School] workshop which is being held at the Campinas State University, UNICAMP, and is being attended by over 500 researchers, graduates, and post-graduate students. Carlos Lucena, the Brazilian coordinator of the bilateral cooperation program, yesterday noted that all the established projects will be carried out before June and that "they can be compared with those currently being developed in the United States, Europe, and Japan--they are fifth generation programs." He added that "Brazilian researchers were invited to participate in the 'Spirit' project in Europe, but they were later excluded from the project because they are not members of the European Informatics Community."

According to Armando Martim Haereder, the Argentine coordinator of the program, the nine projects which by the second half of the year will be submitted for evaluation to the SEI [the Informatics Secretariat] and to the Argentine Science and Technology Secretariat for allocation of funds "will be extremely important for the development of this area in the Third World. This is an issue of great concern to countries of the old world which form tightly knit groups that impede our entrance to the sector."

The most important of the nine projects to be carried out is the development of a "RISK" [in English] type computer, which is the most recent American generation of computers that gives better performance, also the development of "hardware and software [in English]. Another project that was defined at the EBAI workshop is one regarding the establishment of a signal processor for use in banking and commercial areas. The objective of this project is to improve the verification system of the automatic code check [teleassinaturas] and automatic voice recognition. Researchers will also study the "software" [in English] development process. Lucena noted that "the idea consists of formulating and experimenting with new ideas aimed at generating knowledge that will make more viable the development of effective systems and to produce new software."

But the most ambitious projects of the bilateral cooperation program concerns the creation of specialized safety systems to be applied in nuclear areas. Carlos Lucena explained that "it deals with the automation of safety programs in nuclear reactors and other nuclear installations, through the implementation of specialized software systems." In addition to the nine projects to be submitted to the SEI and the Argentine Informatics Secretariat for approval and to authorize funds, the EBAI workshop also approved nine basic research lines that will be discussed at the Brazilian-Argentine Informatics school to be held in Buenos Aires in February 1987.

The most important of these research lines pertains to the microelectronic field, and it provides for the study of projects on integrated circuits, CIS manufacturing processing, reliability tests, and fault analyses. Another research line establishes the creation of an analysis and synthesis group of Portuguese and Spanish with the objective of establishing a single software language common to both countries. At the EBAI II to be held in Argentina a laboratory for the production of the first chip and the first software to be manufactured by the two nations will be introduced. The first seminar will be closed on 1 March in the presence of Science and Technology Minister Renato Archer and Argentine Science and Technology Secretary Manuel Sadosky.

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CSO: 5500/2028

SARNEY REFUTES ABREU SODRE ON COMPUTER POLICY

PY142049 Paris AFP in Spanish 2217 GMT 13 Feb 86

[Text] Brasilia, 13 Feb (AFP) -- Less than 24 hours before the swearing-in ceremony, President Jose Sarney today refuted a statement made by Roberto Costa de Abreu Sodre, the future foreign minister, who had referred to the law closing the Brazilian computer market. Abreu Sodre said on 12 February that the law might be changed to give a chance to the large multinational companies, which have no access to the Brazilian computer market. Sodre said that Brazil can preserve its independence without harming the countries that want to promote their exports. The FRG, the United States,and Japan are the three countries which have most strongly pressured Brazil to open its computer market.

The presidency today issued a communique which, without mentioning Sodre, warns that Sarney will not, under any circumstances, change the computer market closure law. The communique adds that the computer market policy, now implemented by the Sarney administration, was voted on and approved by Congress, where then Senator Jose Sarney supported it. This policy takes national interests into account and will be neither changed nor made more flexible, the communique concludes. Sodre, who is scheduled to replace foreign minister Olavo Setubal on 14 February, has been strongly criticized by JORNAL DO BRASIL, an influential newspaper.

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CSO: 5400/2038

BRAZIL

BRIEFS

NEW RADIO STATION--Communications Minister Antonio Carlos Magalhaes on 27 February will inaugurate the Educational Radio that will operate in the Federal University of Alagoas in Ceara. This radio station will use material provided by the BRAZILIAN NEWS ENTERPRISE for its news programs. [Text] [Brasilia Domestic Service in Portuguese 2100 GMT 26 Feb 86] /9604

NEW TV REPEATER STATION--The Communications Ministry and the Army will install five repeater television stations in the Amazonas and Mato Grosso areas, as part of the Army TV Network. These new repeater stations will be linked to stations in the southern region of the country through the Brasilsat satellite. [Summary] [Rio de Janeiro O GLOBO in Portuguese 21 Feb 86 p 5] /9604

CSO: 5500/2028

BRIEFS

COLOMBIAN-FRENCH GOVERNMENT AGREEMENT--The governments of Colombia and France today signed an agreement to broaden the coverage of Television Network Three. The agreement involves an investment of 490 million francs that will help develop the education-at-a-distance program being implemented by the current administration. Through the agreement, France will extend 480 million francs to Colombia at favorable terms and donate 10 million francs. It also committed itself to donating an equivalent of 13 million francs in spare parts for equipment that will be installed. The French Government will also send experts to advise Colombian technicians on operation and maintenance of that equipment. [Summary] [Bogota EL SIGLO in Spanish 19 Feb 86 p 3] /9604

CSO: 5500/2029

PERU

NATION INTEGRATED INTO METEOROLOGICAL SYSTEM

Lima EL COMERCIO in Spanish 31 Oct 85 p A-10

[Text] Beginning today Peru will be integrated into the international system for transmitting hydrological and meteorological data via satellite, which will permit reception of data on atmospheric phenomena in the most remote parts of the country, as well as that originating in foreign countries, which can be important to our national development.

To this end the first two concentrated data platforms for utilizing the geostationary GOES East satellite will be opened officially at 10:30 a.m. at the Geophysical Institute Observatory of the Geophysical Inctitute of Peru in Ancon.

The announcement was made by the National Meteorological and Hydrological Service, the agency in charge of this sytem through an agreement with the U.S. National Oceanic and Atmosppheric Administration.

It is emphasized that the importance of the concentrated data platforms and the functioning of the satellite transmission system is based on the fact that, thanks to the system, it will be possible to obtain numerical data concerning atmospheric phenomena in the most remote areas of the country, where physical conditions make it practically impossible to obtain information by other means.

In addition to the platforms being inaugurated, others of the same type have been installed as part of a pilot network in the Amazon jungle. The information obtained through the system will be very valuable in forecasting floods and weather, as an aid to navigation and for agricultural forecasts, among other things.

At present the international system of remote satellite reception consists of more than 15,000 stations scattered throughout the American continent.

8735/9274
CSO: 5500/2057

INDIA

AMBITIOUS TELECOMMUNICATIONS EXPANSION PLANNED

Calcutta SUNDAY in English 2-8 Feb 86 pp 34-35

[Article by Kalyan Kar]

[Text]

Telecommunication facility has long been one of the key parameters in evaluating the degree of economic development of countries. In the industrialised nations, telecommunications plays a significant role in the economic and commercial activities and acts as a catalyst for growth. In contrast, telecommunication facilities in the Third World are not sufficiently developed to sustain even national services. Of 600 million telephones in the world, about 450 million are accounted for by just nine countries; 75 per cent of the world's population lives in countries with ten telephones or less for every 100 persons, and over half the world's population belongs to nations with less than one telephone per 100 persons.

In India, the level of telephone service is among the most dismal: four telephones per 1,000 persons against the global average of 19.1 per 100 persons and a stupendous 83 telephones per 100 persons in the USA and 49.6 per 100 in the UK. Telecommunications experts have already cautioned that India is fast approaching a stage when the communication network will totally collapse because of sheer overload. In fact, it has been estimated that congestion of the network can be kept within manageable limits if the telephone density is raised to 12 per cent of the urban population and two per cent of the rural population. In other words, India would need 28 million telephones corresponding to 24 million exchange lines to ensure that the nation's communication system remains within manageable limits of operation. Considering that there are only four million telephones today, the future does appear to be bleak.

But there is a silver lining in this grim scenario: the telecommunications industry, which, for all practical purposes, is the Indian Telephone Industries (ITI), is under the stewardship of K. P. P. Nambiar, chairman-cum-managing director, the man who made Keltron, a Kerala government undertaking, into one of the most well-known names in the sphere of electronics. Mr Nambiar, who took charge of ITI only on 1 March, 1985, has expressed confidence that despite the formidable challenges, the "communications industry, under the leadership of ITI, will emerge in the 21st century spearheading the communication revolution by providing the necessary equipment and systems..."

As part of the communication revolution, ITI plans to invest Rs 610 crores during the Seventh Plan though it has been sanctioned an outlay of Rs 335 crores only by the government. By 1990, ITI would have manufactured 44.03 lakh exchange lines, 56 lakh telephone instruments and Rs 1,161 crores worth of transmission equipment.

The growth of the Indian telecommunications industry has been closely linked with the growth of ITI. It was the first public sector enterprise to be set up, in 1948 in Bangalore, in collaboration with Automatic Telephone & Electric Co., UK, to make strowger switching equipment and telephone instruments for the P&T department. Today it has grown to be one of the largest public sector units with 12 factories in six locations with 30,000 employees. Telecommunications has undergone rapid changes in technology, and ITI's strength lies in its ability to absorb and adapt to these changes along with physical growth. Though the bulk of its production capacity is confined to strowger and crossbar switching systems at present, it has already initiated steps to switch over to digital electronic switching technology as recommended by the Sarin Committee.

The trend in communications technology is towards total digitalisation, optical communication, large-scale integrated circuits, micro-processor based systems and computerisation. And work in this direction is being vigorously pursued in the R&D divisions of ITI at the Bangalore and Naini units. As Mr Nambiar has pointed out: "ITI is accelerating the process of implementation of the digital exchange switching factory at Mankapur in UP, under technical collaboration with CIT-Alcatel of France and exploring possibilities of technology transfer for digital microwave, frequency division multiplexing equipment, single channel per carrier systems..." The company is also collaborating with FACE Standard of Italy for the manufacture of 500,000 rotary and 500,000 electronic push-button type telephones at its Bangalore and Naini units. To take care of present traffic conditions in the country, ITI is collaborating with Bell Telephones to make 200,000 lines per year of electro-mechanical switching systems at its Rae Bareli factory based on the Indian crossbar design.

ITI's R&D has achieved successful results with prototype designs in certain high-technology areas like low-cost earth station terminals to establish a network using satellite links between various centres, a 50/200 electronic exchange which has been tried at Amundi in Tamil Nadu, a 30-channel pulse-code-modulation system installed at Bombay, and a 46-channel time division multiplex voice frequency telegraph system under trial between Bombay and Madras. ITI is also supplying the supervisory remote control equipment and centralised micro-processor-based traffic control equipment for Calcutta's Metro Railway. But its most significant achievement last year was the development of the integrated local and trunk automatic exchange equipment using the latest micro-processor technology which could form the basis of the electronic rural exchanges that are being planned by the government.

While presenting the annual accounts for 1984-85, Mr Nambiar had mentioned that ITI intended to provide the necessary equipment and systems "for the overall digitalisation of the national network and helping to establish the Integrated Service Digital Network (ISDN), enabling the transmission and reception of data, voice and facsimile through the simple telephone line to the subscriber". ITI plans to introduce new products like VHF radio telephone systems, 3-channel and 8-channel open wire systems, and multi-access rural radio systems (MARR) in the area of transmission.

ITI is also planning to diversify into the field of oil and gas pipeline communication. It has already signed a memorandum of understanding with Japan Radio Co. for manufacturing digital microwave systems with 120 channels. With an investment of Rs 3 crores, it expects an annual turnover of Rs 15 crores from the pipeline sector.

To partly finance its massive investment plans, ITI is entering the capital market with a public issue of 10,00,000 14 per cent secured redeemable non-convertible bonds of Rs 1,000 each for cash at par to raise Rs 100 crores. In 1984-85, the company's production was valued at Rs 236 crores, up ten per cent over the previous year. The pre-tax profit was Rs 26.16 crores against Rs 20.76 crores in the earlier year, while profit after tax recorded an increase of 24 per cent at Rs 15.5 crores against Rs 12.5 crores. After Keltron, ITI may well be Mr Nambiar's next success story.

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CSO: 5500/4722

BRIEFS

TELEVISION STATION INAUGURATED--On the occasion of the anniversary of the Islamic revolution in Iran the television station in Gavbandi District began operation. The district, which is a subdistrict of Bandar-Lengeh, can now cover some 20 villages using this 50-watt VHF transmitter, which uses an earth station to receive satellite broadcasts, and rebroadcasts the programs of the Vision of the Islamic Republic of Iran on Channel 12. /Summary/ /Bandar 'Abbas Domestic Service in Persian 1330 GMT 12 Feb 86 GF/ 12228

NEW TRANSMITTER FOR JASK--According to a report from the Central News Unit, in order to provide television coverage to rural areas, a 50-watt transmitter of the Jask District in Hormozgan went into operation with the help of a ground satellite station. With the installation of this transmitter and its operation, the residents of Jask port and the villages of Old Jask will be able to view the Channel One network of the Vision of the Islamic Republic of Iran with better reception on Channel Three. /Text/ /Bandar 'Abbas Domestic Service in Persian 1330 GMT 20 Feb 86 GF/ 12228

FIRST POWERFUL UHF TRANSMITTER BECOMES OPERATIONAL—Bandar 'Abbas—KEYHAN Correspondent—The Jenah television and radio FM transmitter, including the first powerful UHF television transmitter in Iran, was officially inaugurated yesterday morning with participation by Mohammad Hashemi, Acting Director of the Voice of the Islamic Republic of Iran Organization, several officials and managers from Voice of Iran centers, and local officials from the province of Hormozegan. Our correspondent reports that this station, which has two 10- and 20-kilowatt UHF and VHF television transmitters and two 10-kilowatt FM radio transmitters, will be able to broadcast programs from Network One of the Islamic Republic of Iran on channels four and 36, as well as the Voice of the Islamic Republic of Iran's Persian and Arabic programs at the frequencies of 100.8 and 104.4 megahertz. The broadcasts will reach two cities and 174 villages on a coastal line from Bandar Maqam to Bandar Mo'alem, and from the vicinity of Bandar Langeh and the Islands of Lavan, Kish, Farur, Beyn-e Farur, Siri, the Greater and Lesser Tombs, and Abu Musa, and, if atmospheric conditions are favorable, to points outside the country. This transmitter, which was built at an elevation of 1,450 meters on Mount Jenah, cost more than 230 million rials. All installation and application of equipment and necessary facilities were done by engineers and specialists in the Voice of the Islamic Republic of Iran Organization. It is necessary to explain that the Jenah radio and television transmitter, by making permanent use of satellite television systems in the country, can broadcast with good quality the programs of the Voice of the Islamic Republic of Iran for the areas within its range. The installation of satellite receiving equipment at this station has now been completed, and it will be put to use after testing. [Text] [Tehran KEYHAN in Persian 5 Jan 86 p 1] 9310

CSO: 5500/4724

IRAQ

BRIEFS

SOUTHERN FIBER OPTICS CABLE--Tenders are due in on 4 December for Iraq's first large-scale fibre optics communications scheme. The Lower Euphrates fibre optics system will involve laying a 1,00-kilometre cable, providing 45,000 channels, between Baghdad and Basra. Construction is expected to take two to three years, with costs estimated at between $85 million-125 million; contractors have been asked to accept payment deferred for not less than two years. Companies expected to bid include Japan's NEC, Philips of the Netherlands, Sweden's Ericsson, Italy's Telettra and France's Alcatel Thomson International. Client is the Transport & Communications Ministry's Coaxial Cable Organisation. The organisation is understood to be in charge of long-distance communications projects, and is reported to be manged by the military. Smaller fibre optics schemes have already been carried out. In 1982, a Japanese group of Mitsubishi Corporation, NEC and Furukawa Electric Company won a $1.6 million order to supply and install nine kilometres of cable in Baghdad (MEED 17:12:82). The order, the third placed with the Japanese, followed similar contracts placed with French and Swedish concerns, and was said to be the forerunner of a series of larger projects. Future fibre optics schemes are expected to include the Upper Euphrates systems which will link Baghdad and, probably, Mosul. [Text] [London MIDDLE EASTERN ECONOMIC DIGEST in English 30 Nov 85 p 20] /13104

CSO: 5500/4516

CHAD

GOVERNMENT APPROVES PROTOCOL ON INTELSAT

AB151116 Ndjamena Domestic Service in French 0530 GMT 15 Feb 86

[Excerpts] The head of state yesterday morning presided over an extraordinary cabinet meeting. Here is the report made by Homamat Soumaila, minister delegate to the presidency in charge of information:

[Begin Soumaila recording] The ordinary cabinet meeting of Thursday, 13 February 1986, was held today under the chairmanship of Comrade El Hadj Hissein Habre, president of the republic, head of state and chairman of the Council of Ministers. The meeting examined two items on the agenda. But before examination of the items on the agenda, the president of the republic informed the cabinet about the Chadian situation in general and the new war which Libya has again imposed on us.

Coming back to the items on the agenda, the minister of posts and telecommunications submitted to the Council for approval a draft ordinance on the ratification of the protocol related to the privileges, exemption snad immunities of Intelsat, the International Satellite Telecommunications Company. The minister pointed out in his accompanying letter that Intelsat was established in Washington on 20 August 1971 and that Chad became a member on 9 June 1977. The organization which now has 110 members, ensures the management and maintenance of satellites, the minister concluded. After some formal questions, the Council gave its approval. [End recording]

/6662
CSO: 5500/51

ITALIANS EXPRESS INTEREST IN SPANISH TV

Madrid CAMBIO 16 in Spanish 6 Jan 86 pp 16-17

[Article by Jose Oneto]

[Text] Late in the afternoon of 12 December, a private Mystere jet landed at the Madrid-Barajas airport.

On board was a 49-year-old Italian, Milanese by birth, a doctor of law and an architect, known in his country as "Sua Emittenza" [His Emittence]. He was nearing the end of an exhausting workday that had begun in Milan, continued in Paris with a luncheon spent in negotiations, and which was going to end that night in Madrid at the Moncloa Palace, with a private dinner with the prime minister, Felipe Gonzalez.

The Milanese citizen on board the Mystere, Silvio Berlusconi, the owner of real estate and publicity companies, the boss of three television channels in Italy (Italia 1, Rete 4, and Channel 5), and a partner with Jerome Seydoux in the first private television channel in France, is known in his country as the great broadcaster ("Sua Emittenza"). He had never before met Spain's prime minister, Felipe Gonzalez. They didn't know each other, but no intermediaries were needed.

Berlusconi, a personal friend of the Italian prime minister, Bettino Craxi, is also acquainted with France's President Francois Mitterrand. He carries his success with him like a visiting card, because everything he touches seems to turn into gold. His great aspiration for the future is to take part in a European television system that could broadcast to 250 million viewers.

On 12 December, Silvio Berlusconi dined alone with Spain's prime minister in the Moncloa Palace, and explained to Felipe Gonzalez the most efficient and most profitable model for a private television system, based on Italy's experience in recent years.

His letter of introduction in Spain (aside from his already solid ties with a leading businessman in the press) consists of his ownership of Roma Studios, purchased last November for 580 million pesetas, and of an ambitious project to produce programs. Starting in January, 2 billion pesetas are to be invested in this project.

The confidential nature of the Berlusconi-Gonzalez interview prevents us from knowing if in fact this Milanese Midas did manage to convince Felipe Gonzalez of the efficiency of a more entertaining, more self-assured, and more profitable nonpublic television system--and above all, one that has closer ties with other European projects. But what does appear certain is that the dinner did serve to dispel some doubts which Spain's prime minister has had about the need to regulate the number of channels, a promise that has been pending for months now.

Gonzalez himself had announced a policy of freedom for television channels over a year ago, at the time when it was announced that the organic law would be ready before the end of 1985.

The first LOC [Communications Regulation Law] bill, prepared last May by the staff of former minister of transportation Enrique Baron, was not supported by his successor, Abel Caballero.

The Baron bill led to a major split in the council of ministers, primarily because of the opposition expressed by the former superminister of the economy, Miguel Boyer. The bill consisted of a four-page preamble justifying the bill's text, five major headings, 48 articles, eight additional provisions, seven transitional provisions, and one repeal clause.

This bill attempted to regulate all types of communications, from the postal service up to and including what the law called "radio and television broadcasting." The latter is considered a basic public communications service, whose ownership belongs to the state.

After the cabinet shakeup in July and the departure of the ministers of transportation and the economy, Enrique Baron and Miguel Boyer, who had clashed on matters involving jurisdiction and subordination, the private television issue was left on the shelf until last November, when deputy prime minister Alfonso Guerra announced in Seville at the closing of the Fourth International Colloquium on the European Human Rights Agreement that the government would shortly send to parliament a bill regulating private television broadcasting, as a way to further the freedom of expression guaranteed by Spain's constitution.

At the present time, according to reliable sources directly involved with the drafting of the new law, responsibility for this matter has passed directly to the hands of the prime minister, Felipe Gonzalez, and the cabinet spokesman, Javier Solana.

After his talk with Berlusconi, it seems that Gonzalez has decided to give a new push to the bill, which is now on his desk awaiting an appropriate time to be sent to parliament, after being approved by the council of ministers.

Reliable sources indicate that the Moncloa Palace has apparently decided to allow three channels to operate. One would follow a more or less conservative line. It would include the newspaper ABC, the Catholic Publishing House, the COPE stations, and a group of regional magazines, including LA VANGUARDIA from Barcelona and EL CORREO ESPANOL-EL PUEBLO VASCO from Bilbao. Its main financial backer would apparently be Ignacio Bayon, a member of the CEOE [Spanish Confederation of Businessmen's Organizations], and one of the seven largest national banks.

This first group would also include the group of stations using Antenna-3 and Radio-80.

The second channel would reportedly be controlled by the Zeta group. Its president, Antonio Asensio, has apparently already made some contacts both with Silvio Berlusconi and with a Venezuelan group, Gustavo Cisneros, which operates a number of television stations in Venezuela.

The third channel is the one that has been in a more difficult position because, according to some nongovernmental sources, there were not sufficient frequencies available. It would be operated by PRISA, the company which publishes the newspaper EL PAIS, and the SER [Spanish Broadcasting Company] (SER channel).

This third channel might also be used by some of the applicants who at the present time have been left out of the government's original concessions.

According to a number of sources, businessmen close to the Socialist Party might be involved in some of the channels. They could establish some sort of contacts with three of the banks (Bank of Bilbao, the March Bank, and the Bank of Santander) which, in principle, seem to be prepared to finance this ambitious private television project for Spain.

In any event, nothing has yet been definitely decided. Nor does Gonzalez seem to have finally resolved an issue that is of great concern to him, an issue which, after the NATO referendum, is going to occupy his full attention.

Not even after his meeting with Berlusconi was the prime minister able to erase many of his doubts. The regulatory decree is ready and waiting on his desk, but many things may still happen before the final resolution.

7679
CSO: 5500/2579

DENMARK

BILL WOULD SEPARATE GOVERNMENT PHONE NET FROM P & T MONOPOLY

Copenhagen BERLINGSKE TIDENDE in Danish 31 Jan 86 Sect III p 4

[Text] Minister for Public Works, Communication & Transportation Arne Melchior yesterday introduced the bill that would restructure the telecommunications services. The minister wants the government phone networks to be separated from the P & T monopoly.

Minister for Public Works, Communication & Transportation Arne Melchior (Center Democrats) wants the government phone net to be separated from the P & T monopoly as part of a new distribution of tasks between the government and the telephone companies operating under concessions.

This proposal was contained in the bill introduced by Arne Melchior in the Folketing last Thursday.

The background to the change is a decision made by the government in April of 1985, according to which the government will transfer large sections of the telecommunications network to the telephone companies, which will also take over all contact with customers for most telecommunications services.

The functions to be performed by the government will be gathered within the Government Telecommunications Service, which will safeguard nationwide tasks, including the entire radio services. In North Schleswig, which is outside the area of the Jutland Telephone Company, a 'Tele North Schleswig' will be established, which, like the Government Telecommunications Service, will be organized as separate government enterprises.

It is proposed that the government telephone network for the area of Møn become included under the Copenhagen Telephone Company.

Arne Melchior says that it is a prerequisite of the reorganization of the tasks that it will not cost the government additional money.

7262
CSO: 5500/2580

BRIEFS

MOBILE PHONE SYSTEM ADVANCES--The Postal and Telecommunications Services have had such a great success with their new mobile telephones that the system will now be expanded. In the course of the next 3 years, 40 new 'base stations' will be built throughout the country--each consisting of a 99 meter high steel mast and a fairly small building for transmitters and receivers. [Text] [Copenhagen BERLINGSKE TIDENDE in Danish 19 Oct 85 p 2] 7262

CSO: 5500/2580

FRANCE

MINITEL USED IN POLITICAL CAMPAIGNS

Paris LE NOUVEL ECONOMISTE in French 24 Jan 86 p 42

[Article: "Data Communications: The Minitel Is Entering the Campaign"]

[Text] Billboards, radio stations, TV stations no longer meet the needs of politicians in gleaning the votes that will make a difference on 16 March. They are investing in a new support, the Minitel, which has the dual advantage of opening the doors of over 1 million French households and of making potential voters pay for political propaganda.

"We are beginning to balance our operation," Mr Bernard Tani, cofounder of Direct Democracy, acknowledged; this is the leading political service: 60 hours of daily connect time, 15,000 calls per month. Through this service, Mr Pierre Mehaignerie, the CDS chairman, answered over 300 questions live. The minister of PTT, Mr Louis Mexandeau, followed him. A dream cohabitation that is not found on the other services. PS-Info, MMD-UDF FN-National Hebdo are marching under their own colors. Printemps 86 and GAO are going respectively to the right and to the left. But for the time being all the "partisan" services are spending money. "Each presentation of an issue on the datacom network costs us FF 10,000," Mrs Jeanne Bordeau, in charge of communications at P-86--200 calls per week--explained.

Computer-Aided Left (GAO) decided to give an interest to the firms that developed its application: the CTL server gets 50 percent of the amounts paid back by the PTT; the Gicquel-Katz design company and the ACM data-processing service and engineering company get each 25 percent. But with 40 hours of daily connect time, the business is not yet profitable. For the UDF and the Micromedia company, which set up the system, the bill amounts to FF 250,000. "But that does not include the cost of the printers we lent out," Mr Emmanuel Gazeau, who monitors the MMD-UDF service, pointed out: 130 UDF personalities are equipped with autotex-printers receiving and editing around the clock.

With PS-Info, the Post Office Administration has lost a client to the Telecommunications Administration. The service replaces a daily newsletter that was not delivered on time. "That cost us the price of a (French) microcomputer with eight modems to transmit the information and three software packages." As far as service quality is concerned, subscribers gained on the exchange. As for price, that is something else: FF 0.77 for 20 minutes [as published] when calling from Paris, and 1 unit every 12 seconds when calling from the province. It is costly and not very profitable: the PTT have nothing left to redistribute. The smarter ones chose the "datacom newsstand": 77 centimes for each 45 seconds, with two thirds paid back to the service called. But to use it you need a registration number from the joint press commission. The National Front is using that of its weekly; GAO arranged to be sponsored by LA LETTRE DE LA MEMOIRE COURTE. The UDF is more discreet "but legitimate," we were assured. Anyhow, what is important for datacom politicians is to hold out until 16 March. After that, the votes will be in the ballot boxes.

9294
CSO: 5500/2587

FRANCE

DOMESTIC SATELLITES CALLED 'TOO EXPENSIVE' TO BE COMPETITIVE

Paris LE NOUVEL ECONOMISTE in French 10 Jan 86 p 50

[Article by Jean-Francois Jacquier]

[Text] We know very well how to manufacture satellites, and we know very well how to place them in orbit. But they are not competitive.

"A new phase. A major program which must decisively express the breakthrough of French space technology." Several days before the Ariane launching of Spot 1, a French earth observation satellite, officials at the National Space Studies Center (CNES) could hardly conceal their excitement. Clearly intended for military applications, Spot 1 will also be charged with civilian, scientific, and economic tasks: oil research, evaluation of agricultural production, hydrology, cartography, and so on. The first in a family of four, Spot 1 costs 2 billion francs and will allow France to enter the space remote-sensing market; this is a promising market, assessed at 350 million francs per year, and one in which the Americans and the Soviet Union had a de facto monopoly until now. Spot 1 will thus be France's eye in space, the world's third eye, independent of the other two large countries.

Spot Image, the company responsible for selling the images collected by the satellite, has already signed sales agreements with 37 different countries; a subsidiary was also created in Washington to capture part of the North American market, the largest consumer of television images. "All in all, in a few years the market could reach 40,000 to 80,000 images per year," the officials estimate. At $1000 each on magnetic tape, or $250 on photographic film, together with the receiving stations (about 30) which should be supplied by SEPS (Europe Propulsion Company), Spot could become a profitable business. With Telecom 1, the telecommunication satellite launched in 1984, and TDF 1, the direct television satellite which should be placed in orbit in November 1986, France will have by the end of the year a panoply of operational satellites covering the most promising sectors.

According to a recent OECD (Organization for Economic Cooperation and Development) report, CNES, which oversees all the French space programs, presently stands as the second largest civilian space agency in the world.

While it is true that it trails far behind the American NASA, whose budgets are ten times larger, it is still ahead of the Japanese NASDA. In terms of expense per inhabitant, France's effort in space is also by far the largest in Europe.

With four large builders (Aerospatiale, Matra, Thomson, and SEP) and about 40 equipment manufacturers, the French space industry has had revenues of about $400 million in 1983, equal to Japan's, which is less advanced but which is second in the world in terms of investments. Thanks to Ariane (60 percent of shares) and a multitude of European or international cooperation programs, and thanks also to the new Hermes space shuttle project, for which Aerospatiale will be the prime contractor, France appears as a better challenger for the the United States.

Competition

The proof is that Ariane has been chosen to launch Spot. In competition with the American shuttle, it has garnered nearly 50 percent of the world's orbiting market. The last contract recently signed to launch Intelsat 6 (in 1990) brings the order book of the European rocket to 28 satellites to be launched, for a value of 7.9 billion francs. Forty firm orders have been entered since 1980, for a total of 10 billion francs, which is equivalent to the development costs; not to mention 6000 jobs assured in Europe, 3000 of them in France.

A good score, which however hides one flaw: the lack of competitiveness of French satellite manufacturers. Except for two Arabsat satellites for the Arab League, and Tele-X, a direct television satellite ordered by Sweden, France has not obtained any true exportation contracts. On the other hand, the Americans and Canadians have won all the bids for communication satellites.

There are many reasons for this lack of aggressiveness: the European market is too small; intra-European competition, and even French-French competition between Matra and Aerospatiale; the hold of the government on contracts is too strong; and so on. All of them obstacles which prevent any launch platform standardization and which multiply costs.

If the French and European industries want to transform their technologic success into a commercial success in this field, "prices will have to be reduced by 20-25 percent," say the OECD experts. In space as in any industry, know-how is not enough.

11,023
CSO: 5500/2582

MATRA, SEP FORM COMPANY TO COMMERCIALIZE SATELLITE IMAGES

Paris ELECTRONIQUE ACTUALITES in French 24 Jan 86 p 6

[Text] The companies Matra and SEP have decided to form an economic interest group in the field of reception and processing of images from earth monitoring satellites. The name of this group is Image International. Its purpose is to coordinate commercial activities in France and abroad, to distribute tasks relating to contract execution and to orchestrate research and development programs on new products and systems.

Image International combines the experience of SEP in image processing and of Matra, which implemented the space segment of the French Spot program. It should be recalled that SEP has already installed six receiving and processing stations throughout the world, with the last scheduled for completion in Pakistan before the end of the year. In addition to the part on board the Spot satellite, Matra is involved in Pictral image processing and in Traster photogrammetric equipment. Its image processing, analysis and production equipment has also been sold throughout the world.

Although the civilian market for remote sensing by satellite is limited, in the long run, it should, according to SEP, comprise 30 to 35 stations. In addition, there will develop a market consisting of industrial users of images such as the petroleum industry. The processes applied to the images supplied by airborne remote sensing means also fall within the scope of the group. In the military field, SEP and Matra are working jointly on the French Helios Satellite program. Image International will also play the role of coordinator in this project.

12798/12232
CSO: 5500/2592

FRANCE

PTT DRAFT BUDGET FOR 1986 UP SLIGHTLY OVER 1985

Paris ZERO UN INFORMATIQUE HEBDO in French 18 Nov 85 p 59

[Article by E. S.]

[Text] With 179.4 billion francs of net expenses, 6.2 percent more than in 1985, the PTT supplementary budget draft for 1986 is still the largest investment budget of the civilian ministries.

The total stipulated budget program authorizations amount to 42,390 MF (including 4800 MF for the electronics industry and 4210 MF for new technologies), to which should be added the authorizations for programs which will be financed by telecommunication financing companies to the extent of 2800 MF.

By itself, the total telecommunications investment budget amounts to 41,961 MF, consisting of 30,151 MF of program authorizations and 2800 MF of orders to be transmitted through financing companies.

Outside of the development of telephone subscriber revenues, which are growing more slowly, the investment budget will help satisfy the demand for new services through expansion of the electronic directory service, detailed billing, and so on.

Earth Stations

The Telecom 1 program will be allotted 280 MF to finance the engineering and installation of 65 earth stations. The cable plan will receive 2800 MF.

Together with these conventional investments, PTT will bring 4800 MF as its contribution to the development of the electronics industry. The three agencies included in the civilian research budget--ADI (Association for Computer Development), INRIA (National Institute for Research on Data Processing and Automation), and CESIA [expansion unknown]--are allocated 315 MF. The budget also includes 4210 MF for financing the investment operations of CNES (National Space Studies Center).

In terms of revenues, 917 MF are expected from mail operations, with a surplus of 4458 MF forecast for telecommunications. The fiscal year surplus forecast for the supplementary budget thus adds up to 3541 MF, and the financing requirements to be covered through borrowing, to 20,710 MF.

11,023
CSO: 5500/2582

REFORM OF PTT EXAMINED

Paris LE MONDE in French 31 Jan 86 p 28

[Article: "PTT Reform: To Adapt in the Face of Worldwide Deregulation"; followed by remarks signed E.L.B.]

[Text] What strategy should the PTT adopt to face rapidly changing technologies and worldwide deregulation? Should they give up their monopoly? Go private? Sever the ancestral links between the post office and telecommunications? The reform of the PTT decided by the government (the application decree was published in the JOURNAL OFFICIEL dated 29 January) is intended to be "a French answer" to these questions.

The philosophy adopted is to strengthen a public service "which has been tried and tested." The French Post Office has difficulties, that is true, but it works far better than in some other countries, the United States for instance. As for the telephone network, it is undeniably modern, the authors of the reform explain. The State must therefore remain present while "restricting itself to what is essential" and making a clearer distinction between its functions as author of regulations, network manager (Post, Telecommunications and TDF) and, since 1983, supervisor of the electronics industries. It is important first to think things over before yielding to the pressures of multinational companies which are pushing for deregulation, and not to modify statutes haphazardly considering that, anyhow, the socialists have promised to preserve the unity of telecommunications and the Post Office and that unions are fiercely opposed to their separation. If the PTT must adjust themselves to the new rules of competition, they must do so "as a whole," as the present statute is not seen as an obstacle to behaving "like a corporation," the authors of the reform explain.

To that effect, the following were created and placed directly under the minister's authority: a directorate of joint affairs, personnel and social affairs, budget and accounting, which the council of ministers entrusted to Mr Andre Darrigrand on 29 January; and a general delegation to strategy, entrusted to Mr Jean-Claude Michel, at present head of Mr Mexandeau's staff.

As a result, the ministry will now include four major directorates with those of telecommunications and the Post Office.

The general delegation to strategy "shall study and propose" strategic orientations at national and international level, "prepare" the general principles of PTT regulations, "make sure" that subsidiaries operate in compliance with the overall strategy, and supervise the telecommunications, data-processing and office-automation industries in liaison with the Ministry of Industrial Redeployment.

[Remarks]

Will this "French solution" be enough? It will of course all depend on the quality of the relations that will be established with the Ministry of Industrial Redeployment and in particular with the general directorate of telecommunications (DGT) which is powerful, jealous of its prerogatives and concerned about this form that, it believes, restricts its power or at any rate delimits it. It had become urgent for the French Telecommuncations Administration to define a consistent strategy, as this administration is too dependent on the budget concerns of the Ministry of Finance and on the maneuvers of the nationalized group, the CGE, which supplies its equipment.

The DGT has lost some of its power since 1981, for political reasons but also because this administration was cumulating too many regal functions. The reform adopted could result in a new loss of influence, which would be detrimental, or on the contrary it might strengthen the DGT in the role of an operator of modern networks, with a statute that, in any case, will have to be adjusted. It will all depend on the men chosen, but also on a needed decline of the influence of politics and ideology on this sector.

9294
CSO: 5500/2587

RPR OUTLINES TELECOMMUNICATIONS PROGRAM

Paris LE MONDE in French 6 Feb 86 p 27

[Text] On 4 February, the RPR presented its proposals for communications, a sector to which Jacques Chirac's party will now assign major political importance and which will become a hot item after the March elections. Five commissions of experts worked on what Jacques Toubon called a "Bredin anti-relationship" when trying to describe the complete remodeling of the audiovisual scene. A difficult exercise since, according to the word from RPR, it is necessary to do "more and better" than the Socialist government, whose activities in this field continue to overflow. While it remains very close to the main principles defined by the joint platform of the opposition parties, the RPR program analyses in detail the denationalization process and its financial consequences.

The Fate of "5" and "6"

These two new private stations remain but will probably change ownership and specifications. The law that the RPR intends to introduce at the very beginning of the new legislature will abolish the system of public service concessions. Before the summer, an independent authority, the National Commission of Communications and Freedom (CNCL) will issue licences at the end of a new consultation. This commission, which will replace the High Authority, will comprise 12 members, with 6 magistrates and 5 professionals, appointed by the political authority. In order to avoid abruptly depriving viewers of the new images, an "interim operation" will be put into effect to smooth the transition from the old to the new owners.

The Disengagement of the State

It is the CNCL and not the government which will conduct the privatization process in the autiovisual field. The new independent authority will ensure "general regulation of electronic communications" (issuance of national and local licences, policing of frequencies, public service budget management). It will decide the schedule and methods of denationalization of two of the public channels, of Havas and Sofirad. Telediffusion of France (TDF) will lose its monopoly over broadcasting of private TV stations but will continue to be in charge of broadcasting public TV and of coverage of the gray areas, financed by fees. The office of the Director General of Telecommunications, transformed into a national telecommunications company, will maintain its monopoly over construction and operation of telecommunications networks but will be competing with the private sector for supplying all services, including telephone.

Public Service

Financed exclusively by license fees, its role will be to "broadcast quality programs to the greatest number of viewers." It comprises a national TV channel and three national radio programs (France Inter in FM and long-wave, France Culture and France Musique). Most of the local Radio France stations will be abandoned. On the other hand, Radio France abroad and Radio France International will be maintained.

Assistance in Creation

The development of the national program industries is a major stake of the RPR program, which establishes a production minimum of 500 hours of original French fiction to be reached in 5 years. The support item implemented by the current government is extended as are the broadcasting rules for films over TV channels. Without explicitly raising the problem of quotas, the RPR's position is one of "protection of the national producers from imports of foreign programming." It primarily wants to make the market healthier by separating the functions of producer and diffuser: TV channels will be able to produce only 25 percent of their programming and the requirement to order from the French production company will be eliminated.

The New Media

The RPR intends to make choices between different technological channels. Cable is clearly privileged as the "solution of the future." Local municipalities will keep the initiative for cabling but will no longer have a predominant role in operations. Construction and marketing of the networks may be awarded to private enterprises. The direct TV satellite, which is no longer contested, has been delayed: TDF1 has already been started and will be launched, but its succession is no longer guaranteed. Finally, Channel Plus will be subjected to a general audit to determine whether a scrambled pay channel should be maintained or whether it should be transformed into a conventional commercial channel.

The audiovisual landscape thus portrayed by RPR will, in the short run, comrpise 5 or 6 private channels in addition to local TV stations. Is the advertising market large enough to support these? RPR officials seem very confident of the flexibility of advertising budgets and of the ability of the written press to launch an organized front against this new competitor. Can enough French capital be mobilized to buy back the public chains (700 million francs each), Havas (2.4 billion francs), Sofirad (850 million francs)? According to RPR officials, the CNCL will determine the rate of privatization, keeping into account the financial environment.

Mr Chirac's party, following good political logic, prefers to emphasize the immediate profits from such liberalization: 6 to 7 billion francs in revenues for the government, a 32 percent reduction of the fee, elimination of the tax on videotap recorders and creation of 60,000 to 80,000 jobs per year in the communications field beginning in 1988.

12798/12232
CSO: 5500/2593

FRANCE

PTT TO LAUNCH TELETEX SYSTEM

Paris ZERO UN INFORMATIQUE HEBDO in French 23 Dec 85 pp 1, 4

[Article by Eric Sorlet: "Electronic Mailing Takes Off"]

[Text] PTT authorities have just announced the official market entry of Teletex, a new service for written communication. Every year more than 10 billion original documents and some 147 billion pages circulate in the French industrial world. This traffic requires efficient communications combining speed and quality of transmission. The improvement in mail processing, however, does not necessarily guarantee quick and universal exchange of documents. Moreover, the incompatibility of different brands of machines also restricts their communication potential at a time when the speed of information circulation is becoming a strategic asset for companies. However, there is a solution. On the basis of an international standard defined in 1980, the PTT's initiated the Teletex service last July. This system can be described an an international electronic mail service for companies, which relies on the automatic transmission of documents between the memories of two systems linked either by the telephone network of Transpac.

One might wonder why the DGT [General Directorate of Telecommunications] has shown such discretion up to now about a service which could tangibly modify the working methods of the tertiary sector and which is already operational in 14 countries (South Africa, the FRG, Austria, Canada, Denmark, the United States, Finland, Great Britain, Italy, Japan, Luxembourg, Norway, Sweden, and Turkey) and has been announced in 23 others.

This market entry with no fanfare may perhaps be explained by the competition that an electronic mail system might pose to the postal service. Whatever the reason, the DGT now seems determined to ensure the evolution of its latest product by launching a publicity campaign around the Teletex logo: a green woodpecker.

The choice of this bird is undeniably more appropriate than that of a carrier pigeon, considering the rattling of the printers!

The objective is ambitious, because the plan is to move from the 500 machines presently in service to an installed total of 7,200 terminals by the end of 1986 and 70,000 terminals by 1990. For terminal manufacturers, who will be the only ones to market the Teletex machines, this new market is estimated at Fr 11 billion.

Thanks to international standardization, the Teletex service paves the way for electronic mail exchanges between companies. This system has many advantages. In the first place, the use of international standards ensures the compatibility of different terminals, whatever the model, brand, or location in the world. Automatic memory-to-memory transmission reinforces the confidentiality and security of the exchanges.

Such transmitted mail maintains the same quality as commercial mail. The transmission speed (one A4-sized page in 10 seconds) allows for considerable savings in transmission expenses: One page transmitted within Paris costs to Fr 0.77; from Paris to Marseilles the cost is Fr 1.54.

Furthermore, the full-time availability of the service makes it possible to take advantage of the hourly discounts granted by the networks. Finally, the service gives access to the Telex network, thus enlarging communication potentials.

A Universal Service

While the terminals can be obtained from the manufacturers, the Teletex system itself is subject to a subscription fee paid to a DGT sales office. In return, the commercial service offered by the DGT includes five types of service:

-The label: Delivered by DGT to manufacturers who have requested it, this label guarantees the conformity of terminals to the standard. Up to now, four French manufacturers (SAGEM [Company for General Electricity and Mechanics Applications], CGCT [General Company for Telephone Engineering], Telic and SMT/Sitintel) have received this label for dedicated terminals, the cost of which ranges from Fr 60,000 to Fr 100,000 (excluding taxes).

An external adapter, developed by Sitintel and costing between Fr 22,000 and Fr 33,000 according to the number of terminals connected, is also granted a label. After testing, this black box may allow adaptation of an existing group of word processors and PC-compatible microcomputers operating on MS-DOS to the new Teletex system.

Other manufacturers, such as Marben, Philips and Ericsson, are still waiting for labels.

-The choice of connecting network: The user can choose to connect the Teletex terminals to the switched telephone network (RTC) or to Transpac. Taking into account the fiscal impact of a subscription, the Transpac option--though apparently more economical--may only be profitable for large quantities of mail traffic, on the order of about 50 pages per day.

Nevertheless, gateways between the two networks allow communication with every Teletex terminal, regardless of the connecting method used.

-The interconnected Teletex-Telex system (SITT): This system is a connecting gateway between Teletex and Telex. In this way, subscribers to either system can communicate with each other. For Teletex subscribers, this represents 1.6 million supplementary correspondents (120,000 in France), or almost all business communicators.

This system executes all speed and protocol conversions between the two terminals. Moreover, to be sure that the message has actually reached the addressee, the Teletex subscriber can request a delivery receipt.

When either the network or terminal are busy, the SITT renews the call every quarter hour; if the message is not delivered within 4 hours, the system is obligated to notify the transmitter of non-delivery.

-The Teletex Operation and Management Center (CEGT): The CEGT contributes to service quality and security by making the terminals operational by recording an identification number in the terminal's memory and by synchronizing the internal clock.

Furthermore, the CEGT periodically tests all machines to check their connection to the network, their ability to exchange documents, and the validity of their identification numbers. Finally, it provides assistance to users.

-The directory: A directory listing all subscribers to the service is accessible through Minitel. In addition, all subscribers will be listed in a hardcopy directory scheduled to be published in 1986.

When installed in offices, Teletex constitutes a real productivity tool. Though efficient, the system still needs to undergo many improvements, such as graphics, which will permit transmissions of signatures, logos, or diagrams, or such as multiple routing of documents which could be provided by services of additional value such as the bulletin board to be instituted on the Transpac network.

[Boxed Section]
The Teletex Standard

The Teletex standard was defined in 1980 by the CCITT [Consultative Committee of International Telephone and Telegraph]. It specifies the functioning of terminals used either in local or communication mode.

In local mode, the choice of possible functions and their applications is left to the manufacturers' initiatives. The standard only imposes the following characteristics: the paper size (A4 and A4L), the list of 309 Latin characters, the parameters for page display, and the capability of composing texts in Telex format.

The transmission mode, however, is strictly defined by the following standards:

-Automatic transmission from the transmitting to the receiving memory, 24 hours a day;

-The reception of documents must not distrub local work;

-The terminals connected to the RTC must be equipped with a V27 ter modem at 2,400 BPS half duplex. On Transpac system, the transmission speed may be higher;

-Procedures must ensure the exchange of completely identified documents which are strictly identical to the message sent, in content, format, and presentation;

-Transmission of one page in 10 seconds;

-Each terminal subscribing to the system is assigned a specific identification number.

25035/12948
CSO: 3698/2597-A

DIFFICULTIES IN CABLING PLAN REVEALED

Paris LE MONDE in French 8 Feb 86 p 25

[Article by Jean-Francois Lacan: "Communications: Mr Mexandeau Inaugurates the Montpellier Interactive Network"]

[Text] On 6 February, Mr Mexandeau, minister of PTT, inaugurated the first facilities of the Montpellier videocommunication network. This full-fledged offshoot of the 1982 cable plan, the first truly interactive network if we except the experimental Biarritz network, will start operating during the second half of this year and all households in Montpellier will be connected to it by 1989. With a star configuration designed by Velec CGCT and using only fiber optic cables, it will offer a full range of new services: televideotape library, pay-per-view programs, teleshopping systems, dedicated corporate and educational links. The National Center for Telecommunications studies has allocated a budget of F 20 million to develop all these services which will then be offered on all other fiber optic cable networks.

The minister of PTT took this opportunity to reaffirm the government's determination to continue its efforts to meet the industrial challenge of the cable plan. Sixteen towns representing a total of 2 million households to be connected have already signed contracts. Orders for 1.1 million lines have been placed with manufacturers, half for fiber optic technology and half for the more traditional coaxial technology. Mr Mexandeau's goal in encouraging the General Directorate of Telecommunications (DGT) to expand the legal framework of cable television is to fully associate private operators to the management of the new services which, in his opinion, represent an essential factor in the commercial penetration of cable television. On that same day, this was also the subject of a debate at the International Symposium on Scientific Audiovisual Techniques organized by the CNRS.

A Difficult Turn for the Cable Plan

The start of the Montpellier network may look like a major victory for the concept underlying the cable plan of November 1982: a technological gamble on fiber optics, an alliance of traditional television and modern electronic communication services. After 3 years of polemics, the DGT and the manufacturers which followed it are now in a position to show that interactive television is a reality and that cable networks are indeed the new highways of the service society that is emerging in the last decades of this century. Yet, the cable plan has never been as threatened as it is now.

The opposition's platform provides that the PTT would lose their monopoly on cable television, that local communities would be free to choose the technology to be used, and that the DGT would have to compete with private operators for network ownership and management. Thus, as elections are approaching, the DGT, that formidable power which had thrown its full weight into the fiber optic battle, seems all of a sudden to be plagued with doubts and divided by conflicting strategies. In spite of the minister of PTT's statements, many DGT administrators want to return to the traditional coaxial technology to cope more effectively with the forthcoming deregulation and competition. Even the towns most determined to use fiber optic cables find it difficult to have their orders taken into consideration.

This turnabout is a cause for concern, all the more so as the United States, the land of cable television par excellence, are starting a trend in the opposite direction. Over there, operators have seen their market stagnate in the past year. The receipts of pay-television channels are in sharp decline, cable television subscriptions do no exceed 60 percent of American households, and cable television operators no longer make enough profits to bear the high cost of cabling large urban centers.

The American cable television industry suffers from the competition of 23 million videotape recorders and 1.5 million parabolic antennas which receive satellite broadcasts directly, and even from the marked improvement in traditional radio-relay television programs. To break out of this deadlock, the profession is throwing itself headlong into the marketing of new interactive services, in particular pay-per-view cinema movies and major sports events. But this strategic redeployment is hindered by the coaxial network technology which makes interactivity too restricted and too costly. And American experts are beginning to dream of the benefits of fiber optics.

The crisis of the American cable-television industry may represent an opportunity for the French industry. It is also a lesson for all those in France who are concerned about the financial viability of the future networks. Many local communities (Montpellier, Gennevilliers, Niort, etc.) have already understood that cable television will not attract the public if it is content with broadcasting traditional television channels. Rather than competing with the existing media, theycount on fiber optics and on the new services to break even. Receipts would then no longer depend on subscriptions, but on billing according to consumption, as with the telephone or data communications.

This strategy, however, stumbles on the excessively slow growth of cable subscriptions. How can such an operation become profitable with only 10 or 20 percent of subscribers for some tens of thousands of outlets installed, and when these subscribers already pay a connecting charge of F 140 per month. Aware of the problems, large financial groups (Deposit and Consignment Office, General Water Company) which have embarked on cable operations are now considering a new scenario: connecting all households to a basic program (the six existing channels) for free, so that they would then have a broad base on which to develop the new services.

According to an official of the Deposit and Consignment Office, a free network connecting 100,000 households could break even if each household were to devote F 75 per month to pay programs. The operators are not the only ones to be interested in the economic advantages of this scenario. They are also attractive for movie-making professionals who can thus look forward to a more open and more profitable distribution of their movies and are ready to program them on these channels before they are offered on television or even published as videocassettes.

Free cabling for all and pay-per-view consumption: a consistent model is emerging as an answer to all those who questioned the choice of fiber optics for mere cable television networks. But it goes against the strategy of many at the DGT, who are now more eager to return to the solid functions of the DGT monopoly. It also runs against the tide of liberalism that comes from the opposition. It remains to be seen whether we can just forget about the F 5 billion already invested in fiber optic cable networks and give up a formidable industrial and technological challenge merely for political reasons.

9294
CSO: 5500/2613

FRANCE

STATE OF PRIVATE LOCAL RADIO REVIEWED

Paris LE MONDE in French 1 Feb 86 p 26

[Text] Cannes--The health of privately owned local radio stations can no longer be gauged by the mood of a handful of Ile de France leaders. The provinces are no longer a desert compared to a Parisian Eldorado. The 20th MIDEN [exposition] has demonstrated that innovation and dynamism in France's local radio stations also develop in the provinces.

During the debates and seminars of the MIP radio, during professional meetings, it was the voices of the regions which were heard. In the halls of the exposition, near recording companies and in their own booths, it was a handful of commercial radio stations--there were of course few "associated" stations--which stood out. And even if the general impression tended to indicate that at the end of 5 years "the heroes are a little tired," it is still in the regions that there remains some passion. Passion for the work and the organization of the profession--it is the radio stations in the provinces that breathed new life into the dust-covered SIRTI (Inter-Professional Syndicate of Independent Radio and TV Stations); it is they which created a first label in Cannes in order to record themselves the artists they liked. "The Paris radio personalities often consider us to be peasants," stated Georges Polinsky, director of Radio Nantes. "This does us credit--after all, milk comes from the plains of the Ukraine."

However, the number of privately owned local radio stations in good health today is small. For the 20 or so showing a profit, there are hundreds of others in financial difficulty. The laws of competition are savage and difficult and advertising is slow in coming. Although FM radio stations reach about 20 percent of French listeners, they still only attract 14 percent of radio advertising expenditures. This has resulted in concentration and in a tendency to select the networks, which offer economic channels and are easier to work with in the view of the advertisers.

But malcontents will protest that networks are supposed to be prohibited. This is likely, since the law forbids an individual to control more than three radio stations. Nonetheless, there are about 10 networks operating at the national level, and they loudly maintain that they represent the future. "Upcoming radio licence renewals will provide the opportunity to bring order to this situation," stated Mrs Michele Cotta, chair of the High Authority, during a debate.

Order... The word brought smiles. "Aren't we rather in a state of complete deregulation?" asked someone, citing the race among the very large broadcasters, which has developed a momentum of its own, and the audacity of the new pirates who do not hesitate to park on the available frequencies. "This situation is dangerous," declared Eric Hauville, director of RVS in Rouen. We are enterprises and are attemtping to exercise this profession as best we can. But we need a stable legal framework and a set of established rules of the games to follow."

Many questions that the radio stations would like to see answered rapidly still remain in gray areas. What about the resale of stations? The corporate bylaws? Transfer of a partnership's capital and activities to a corporation? Tax consequences and the rules of labor law? Networks and satellite use? The managers of these stations asked for a more stringent approach and more clearly defined rules.

Mrs Michele Cotta, who requested this direct dialogue with all of the radio stations, seemed responsive to the questions and suggestions raised by these young managers from Nantes, Rennes, Rouen and Lyon. She suggested that the general state of FM be organized to address the pending legal and technical problems. "When?" immediately queried the station representatives, pens poised over their notebooks.

12798/12232
CSO: 5500/2593

FRANCE

UNCERTAIN FUTURE SEEN FOR LOCAL TV

Paris LE MONDE in French 1 Feb 86 p 26

[Text] The announcement of the concession awarded to a new private national TV network, "6," with music as its dominant theme, may signify the demise of local stations as promised by the president of the Republic in January 1985. The law ratified by Parliament last December contradicts this statement. However, the existence of two multi-city networks that take up frequencies as well as advertising resources makes some of the applicants fear the worst. One of the pioneers, attorney Jean-Louis Bessis, has just filed an action against "5" which he believes is damaging to his "Channel 5" project. This lawyer, a former member of the National Council for Audiovisual Communications (CNCA), filed a suit against TDF after the station's equipment was seized in June 1985; it was dismissed on 28 January. Mr Bessis was under suspicion at the time but there were no grounds for prosecution. In another incident, the director of BMB Massif Central Television at Clermond-Ferrand was sued for broadcasting without authorization (judgment adjourned until 4 February).

For the time being, the High Authority on audiovisual communications has recorded some 450 applications for authorization. Until 3 March, the International Crossraods for Communications (CIC) and the Delegation for Territorial Development and Regional Action (DATAR) will be displaying at the CIC the "brochures" of 55 of these applicants, who will be able to develop their ideas on a "life-size scale" through subsidies (LE MONDE, 10 January).

The High Authority cannot hasten the pace. The study was initiated by Telediffusion of France (TDF); it will result in a report on the possible authorizations (as a function of the applications recorded) and on the possible [illegible] quencies, city by city. In addition, the High Authority must [illegible] of the CNCA on the procedure to be followed. The "nine wise [illegible] a month and a half will be needed for preliminary re[illegible] can be made on authorizations, after an in-depth analysis [illegible] and of the first installations. It therefore seems [illegible] TV stations will be licensed before the end of [illegible]

By that time, the political context may have changed; the [illegible] may come into question adn part of the already turbulent [illegible] scrutiny if the opposition is returned to power.

12798/12232
CSO: 5500/2593

FRANCE

BRIEFS

MINITEL PROVIDES NEWS SERVICE--Since 20 January, the 140,000 Parisians who already own a Minitel can get information on Paris municipal services and on the city's activities by dialling 36-14-91-66 followed by the name "Paris." The service operates around the clock seven days a week. It provides information on the statute of Paris (mayor, Paris Council, arrondissement councils), administrative procedures, arrondissement halls, housing, sanitation, social services, health (hospitals and Social Security), education, jobs, cultural activities (workshops, museums, conservatories, libraries), sports, parks and gardens, everyday life (medical emergencies, churches, etc.). Minitel owners can also get on their screen "news" from city hall providing information on public works projects, traffic, cultural activities, the agenda of the Paris Council, competitions for jobs in the administration. Finally, municipal services may be asked questions which they will answer on the Minitel screen within at most 48 hours. These three services are provided by the city free of charge, but the calls are billed by the PTT at the rate of 77 centimes for each two minutes. The average inquiry takes 6 minutes. Minitel Paris, which has been in operation for 20 months, is now accessed 300 times per day (especially between 17 and 21 hours) and queried 20 times per day. [Text] [Paris LE MONDE in French 11 Feb 86 p 21] 9294

CSO: 5500/2613

NORWAY

BRIEFS

FIRMS PARTICIPATING IN TELE-X--The Norwegian and Swedish Telecommunications Services will in the fall invite large enterprises in both countries to participate in experiments with the Tele-X satellite, which is scheduled to be launched in the summer of 1987. The Norwegian and Swedish Telecommunications Services will first approach enterprises which are in need of internal communication between main offices and local offices or subsidiaries located elsewhere. [Text] [Oslo ARBEIDERBLADET in Norwegian 16 Sep 85 p 33] 7262

CSO: 5500/2580

END

JPRS-TTP-86-008

31 MARCH 1986

Worldwide Report

TELECOMMUNICATIONS POLICY, RESEARCH, AND DEVELOPMENT

FBIS FOREIGN BROADCAST INFORMATION SERVICE

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31 March 1986

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CABINET TO CONSIDER SATELLITE TV FOR SOUTH PACIFIC

BK250930 Melbourne Overseas Service in English 0830 GMT 25 Feb 86

[Text] The Australian Broadcasting Corporation [ABC] has told the federal government it could start a satellite television service to the South Pacific for $5-6 million. The estimate is given in a confidential submission provided to the Department of Communications.

A Radio Australia reporter in Canberra, Graham Dobell, says the ABC submission expressed strong interest in providing a satellite television service to the South Pacific, describing the idea as feasible in both technical and program terms.

The corporation said most of the material could be drawn from existing programs, but the service should have news programs with a special Pacific orientation. Dobell says that ABC said this could be provided by drawing on the network of correspondents in the region used by the ABC's overseas service--Radio Australia.

Our reporter says the ABC was asked for the report by the Communications Department which is helping prepare a submission for the cabinet. The submission is expected to go before cabinet at the end of March.

/9738
CSO: 5500/4327

EXPERT NOTES IMPORTANCE OF INFORMATION TECHNOLOGY

Hong Kong HONGKONG STANDARD (Supplement) in English 1 Feb 86 p 1

[Text] A LEADING figure in the local computer industry has called upon the Basic Law Drafting Committee to seek guarantees that after 1997 Hongkong will not be denied access to advanced information technology (IT) products, the supply of which is currently restricted to China and other communist countries.

Mr A.F.M. Conway, Corporate Marketing Manager of Communication Services Limited, was speaking at a meeting of the Hongkong Society of Publishers.

He said that Hongkong cannot exist in its present form without access to the latest in information Technology products and services.

"For the vast majority of our IT systems we have had to obtain export licences from COCOM, the Coordinating Committee for Multilateral Export Controls," he said.

COCOM is a body of the OECD in that its multilateral policy and strategic technology exports controls are binding on the OECD member countries.

However, COCOM is comprised of Nato member countries minus Iceland and Spain but including Japan.

COCOM delegates agree on lists of goods that should not be exported to communist countries. It is then up to member nations to enforce COCOM's recommendations through their own trade laws.

"We have not been denied licences in the past and, in the main, receive them in a timely manner. Of course being a British colony has helped but we abide by COCOM regulations and, with one or two exceptions, all licensed IT products have remained in Hongkong," Mr Conway said.

"However IT manufacturers do have difficulties when applying for licences for products which will be installed in China, and although we hear or read from time to time that COCOM is easing up, with nearly a thousand applications currently in process, we have yet to see the results of friendlier relationships between China and COCOM countries.

"Hongkong has a number of IT systems which hitherto have not been approved for installation in China, and in 1997 we will become a sovereign part of China.

"Recognising this I believe it is incumbent upon the Basic Law Drafting Committeee to use every means at their disposal to obtain guarentees now that for the 50 years from 1997 Hongkong Special Administrative Region will have access to the most advanced IT products and services and that Britain and China make whatever guarantees COCOM requires to ensure this access.

"The time for these guarantees is in 1987, not 1997. Remember that by 1997 IT will be the largest industry in the world, and Hongkong will totally depend upon ready access to the most advanced IT products if we are to remain a leading business city, and we have a duty to future Hongkong generations to ensure that the Hongkong SAR is in the forefront of use of this technology to the benefit of our citizens." Mr Conway said.

/12851
CSO: 5550/0090

HONG KONG

DATACRAFT HONGKONG INTRODUCES NEW HIGH-SPEED SYSTEM

Hong Kong HONGKONG STANDARD in English 30 Jan 86 p 3

[Text] Datacraft Hongkong, a leading supplier of advanced datacommunications equipment, has introduced a new high speed data PABX system that uses standard telephone wiring and connectors to network over 500 terminals and devices, simultaneously.

The Instanet 6000 Data PABX is manufactured by the US-based datacommunications giant, Micom, and forms the hub of an extremely cost-effective network. Terminals, personal computer and peripherals can be linked to make optimum use of resources and communicate at speeds of 19,200 bits per second, full duplex.

"Many buildings are already heavily prewired with telephone wiring, allowing the Instanet 6000 to be installed easily and quickly. The system is priced competitively so that even fairly low volume systems of 100 or so devices prove highly economical," explained Mr Kevin Slattery managing director of Datacraft.

Housed in a cabinet only 39½ inches tall the Instanet 6000 accommodates 504 channels in a single cabinet. This capacity can be upgraded to 1,015 channels by adding a second cabinet.

The Instanet 6000 is extremely friendly, users simply asking for resources by name, such as IBM VAXTWO or MRP. The connection request dialogue can be tailored by the system manager for each installation and may even be converted to different languages if required.

"While the new data PABX provides for easy access, allowing any device to connect any other, system access and control features can be used to ensure security. Terminals can be assigned limited access to a specific device or number of devices and passwords can also be used.

The Instanet system is configured and controlled by a terminal connected to a dedicated Administration port. From there the network manager can define access rights of terminals, update network bulletins, forward messages and receive reports on attempted security violations.

A Statistics port complements the Admin port and provides time and date stamped audit trails of all network activity, including connections, disconnections and queue activity.

"Instanet 6000 is an extremely versatile system, economically priced, highly functional and ideally suited to conditions in Hongkong. Designed to meet present and future user needs the system can be quickly expanded or upgraded by with MICOM Featurepak ROM cartridges," Mr Slattery said,

Datacraft HK is a supplier of leading-edge technology solutions with a range of innovative and unique products for the fields of datacommunications, telecommunications and computer related systems and services. The company's Australian parent is also a leading manufacturer of datacommunications equipment.

/12851
CSO: 5550/0088

HONG KONG TELEPHONE LINK BETWEEN PRC AND TAIWAN

Hong Kong SOUTH CHINA MORNING POST in English 25 Jan 86 p 8

[Text] A high-ranking Taiwan telecommunications official acknowledged yesterday that foreigners in China could make telephone calls to Taiwan through Hongkong, Agence France Presse reported.

The official was speaking after an AFP correspondent in Beijing made a call to the agency's Taiwan office.

This confirmed an earlier *SCM Post* report that it was possible to make telephone calls from the mainland's Fujian province to Taiwan through the International Direct Dialling system.

The *SCM Post* first reported last month that a three-minute phone call to Taipei from Xiamen costs 12 yuan (about HK$33) with each additional minute at four yuan (about HK$11).

However, telecommunications officials in Taiwan denied it was possible to connect calls from the mainland to Taiwan through Hongkong.

And Cable and Wireless (HK) Ltd had said there was neither an operating agreement nor a financial accounting arrangement between the relevant telecommunications authorities and the company for IDD transit telephone calls from Xiamen to Taipei via Hongkong.

The Taiwan telecommunications official said yesterday that the Beijing Government may have set up its own company in Hongkong to entertain calls from the mainland and connect them to Taiwan through the IDD system.

The official said Hongkong telecommunications officials would never have connected calls from China to Taiwan because there was an agreement between Taiwan and any other country or territory, including Hongkong, that calls from China should not be connected to Taiwan.

/12851
CSO: 5550/0086

BRIEFS

BUREAUFAX TO SHENZEN--Cable and Wireless yesterday announced that since Feb 1 Shenzhen has become the fourth city in China which can be reached by Bureaufax, a high-speed facsimile service available to the public for telecopying documents overseas. The company said Bureaufax service had been extended to Beijing, Shanghai and Guangzhou last year. Document size acceptable for transmission to Shenzhen is the A4 size, at a cost of $30 per page, the company added. [Text] [Hong Kong HONGKONG STANDARD (Supplement) in English 5 Feb 86 p 10] /12851

HONG KONG-MACAU LINK--Cable and Wireless Systems Ltd has set up a digital microwave communications link between Hongkong and Macau, fulfilling a contract worth US$400,000. The customers were Companhia de Telecommunications de Macau and Cable and Wireless Hongkong. This alternative communications link is now operational from New Mercury House in Hongkong to Guia Hill in Macau via a repeater at Castle Peak in the New Territories. The system provides for the addition of television transmission as necessary. The hardware involves three eight ft and three 12 ft diameter antenna dishes supplied by Andrews of the US and receiving equipment supplied by Telettra of Italy. [Text] [Hong Kong HONGKONG STANDARD (Supplement) in English 5 Feb 86 p 1] /12851

DIGITAL'S NEW SYSTEMS--Digital Equipment Corpn's new Far East marketing organisation introduced three new VAX computer systems and a new technical workstation yesterday. The new computers include the VAX 8800, Digital's most powerful system; two new mid-range systems, the VAX 8300 and VAX 8200; and the competitively-priced VAX station II/GPX, a micro VAX-II-based workstation featuring hardware-enhanced, high performance colour graphics. The new systems will support both the VMS and ULTRIX (Digital's UNIX) operating systems as all previous VAX computers and users have access to the more than 3,000 applications software programs and networking products. The new systems are part of Digital's ongoing evolution of its second generation of VAX systems initiated with the introduction of VAX 8600 a little over a year ago. Digital's VAX computers represent the industry's only fully compatible integrated and networked family of computer spanning the range from individual workstations to large systems. Commenting on the setting up of the new Far East marketing organisation, Digital's regional marketing manager Bob Schmitt said: "We are enthusiastic about the opportunities we see in the Far East and our marketing group will focus on bringing leadership in integrated computing solution to our customers. He said the formation of the Hongkong-based marketing organisation is aimed at increasing Digital's share of the regional computer market. [Text] [Hong Kong HONGKONG STANDARD (Supplement) in English 3 Feb 86 p 3] /12851

CSO: 5550/0091

BRIEFS

NTT INVESTMENT PLAN--Tokyo, 28 Feb KYODO--Bunsei Sato, minister of posts and telecommunications, indicated Friday he will urge Nippon Telegraph and Telephone Corp (NTT) to increase its planned capital investment in its next business year starting April 1. Sato was commenting on NTT's capital investment plan submitted to the ministry Thursday. The plan proposes an investment of 1,600 billion yen, down 60 billion yen from the previous year. "NTT investment will have a great impact on Japan's overall economic activities. It may be necessary for NTT to expand its investment at a time when Japan is being requested (by foreign countries) to increase domestic demand," Sato said. [Text] [Tokyo KYODO in English 0436 GMT 28 Feb 86 OW]

/12929
CSO: 5560/118

INTERNATIONAL COMPUTER CONGRESS PLANNED FOR BEIJING

Hong Kong SOUTH CHINA MORNING POST in English 24 Jan 86 p 4

[Text] Well before the end of last year, a steering committee met in Beijing to plan for one of the most exciting symposiums allied with an exhibition of technology due to be held in China this year,

The International Congress for Computers and Communication (ICCC) will be staged in September in conjunction with a major display of communications technology, Intercomm '86.

Sponsoring the combined event is the China Computer Society, the president of which heads the organising committee of ICCC and the advisory board of Intercomm. Among the supporting organisations are the Society of Telecommunications (Ministry of Posts and Telecommunications) and the Society of Electronics (Ministry of Electronic Industries).

Topics for which papers will be called include three areas directly relating to telecommunication specialists: communications in computer networks; telecommunication network architecture and network capabilities, and network technologies.

The conference is noteworthy for another reason: It marks the first time that a Chinese-produced magazine will be the official publication of a major international event in China.

The magazine, *Electronics in China*, a Chinese-language monthly journal, is the result of a joint venture publishing agreement between Business Press International (Reed Publishing, UK) and China Prospect Publishing House.

According to the magazine's publishers, the controlled distribution of 12,000 throughout China ensures the most qualified readership, which in turn should ensure a highly qualified and targeted audience for ICCC and Intercomm.

Behind this magazine, the foreign partner, Business Press International, publishes some 120 business, technical and specialist journals and directories in fields ranging from agriculture to electronics. Its sister company in the US, Cahners Publishing, puts out 32 journals in similar areas.

The Chinese partner, China Prospect Publishing House, is seen as a major force in China's vast publishing network. It issues journals and books in economics and marketing, industry, education and science for both domestic and foreign distribution.

/12851
CSO: 5550/0087

DUTCH MINISTER REMARKS ON PRC TELECOM DEVELOPMENT

High Priority Given

Hong Kong HONGKONG STANDARD (Supplement) in English 30 Jan 86 p 1

[Text] CHINA has earmarked telecommunications as a priority growth area and official estimates put a figure of $24 billion to $40 billion on the value of the market over the next five years, a foreign trade official said yesterday.

The Minister for Transport, Telecommunications and Public Works of the Netherlands, Mrs Smit-Kroes, was speaking at a press conference organised by Philips to launch the setting up of a new combined Telecommunication and Data Systems Division.

Mrs Smit Kroes told reporters that she had just returned from a visit to Beijing as part of an overseas trade delegation, and during the talks held there Prime Minister Zhao Zhiyang had assured her of China's continuing commitment to the development of its telecommunications infrastucture.

The current anxieties of firms dealing with China because of the problems relating to foreign exchange had been discussed, she said, but Mr Zhao had stressed that telecommunications development remained a high priority area for his government.

Supporting this optimistic view of trading prospects with the PRC, Mr R M Westerhof, general manager of the professional products division, Philips Hongkong, said that China was expected to invest heavily in its infrastructure this year, particularly in the field of telecommunications.

"To cater for this Philips TDS has set up special teams to offer the latest products, and orders for banking terminals, Automatic Teller Machines (ATM's) and mobile radio equipment have already been received," he said.

"We expect enormous growth in the number of banking terminal systems and ATM's in China in the coming few years, as the use of banking facilities, particularly as regards savings, increases," he said.

"We have developed a new system that will provide a stereotype for future automation in all the 40,000 bank branches in China," he said.

In a major project to develop ATMs that are suitable for China, Philips is co-operating with the Ministry of Electronic Industry.

The company has already signed contracts with the Bank of China to install 12 ATMs in Zhuhai by mid 1986, the first order ever taken in China for this type of equipment. It has also agreed to install banking terminals in branches of the Industrial and Commercial Bank and Agricultural Bank of China later this year.

Effects of Decentralization

Hong Kong SOUTH CHINA MORNING POST (Supplement) in English 2 Feb 86 p 4

[Text] THE decentralisation of telecommunication services in China has brought about a lot of business opportunities for overseas manufacturers, according to Mrs Neelie Smit-Kroes, the Dutch Minister of Transport and Public Works who met with Mr Zhao Ziyang during a three-day meeting in China.

Mrs Smit-Kroes who headed the Dutch delegation to China early in the week said that as far as telecommunications in China is concerned, the situation has unqiue features. The responsibility for telecommunications services lies with the Ministry of Post and Telecommunications in Beijing.

"However, a new policy has decentralised decision-making to city and provincial councils. This has brought the need for standardisation to the forefront of plans for the development of China's telecommunications network.

China, she said, has already bought a number of digital public exchanges for its main cities. At the same time, the country is importing a larger quantity of telecommunications equipment for the hotels and offices.

"There is a great need for radio and telephone equipment and we see an increased interest in technology transfer deals in the whole range of telecommunication into China."

According to Mrs Smit-Kroes who has been involved in the development of the telecommunications policy in the Netherlands for eight years, China is going to spend at least US$3 billion in developing its telecommunications system this year.

She said the Dutch Government is negotiating a number of joint ventures in China although the process is not moving as fast as expected. Mrs Smit-Kroes reckons the most significant changes in the worldwide telecommunications market is the liberalisation of telecommunications with the privatisation of the national Post, Telephone and Telegraph (PTT) organisations.

"These changes, which are taking place globally, started in the US and were subsequently adopted in some European countries as well as here in Hongkong," she said. "This trend can even be recognised in China.

"Telecommunications services have always been controlled by the central government of a country and organised within one organisation with a monopoly. "The first change came with the American Telephone and Telegraph which lost its monopoly on the telecommunications, telephone and telex services in the US. In return, the company was granted the right to compete overseas and market computer products.

"The first country in Europe to follow the liberalisation move was Britain. And we expect to liberalise the PTT services in the Netherlands by 1989. Many companies, and certainly telecommunications equipment suppliers in Hongkong, are looking forward to these changes."

Mrs Smit-Kroes said that both the telecommunication and computer organisations are co-operating more and more with each other today and in many circumstances are integrating their range of products. And as to the future of the worldwide telecommunications market, she reckons the liberalisation of telecommunications will continue and that most governments will see the merit in this trend.

/12851
CSO: 5550/0089

CARETAKER MANAGEMENT TEAMS TAKE OVER TV STATIONS

HK041136 Manila BUSINESS DAY in English 3 Mar 86 p 9

[Text] A caretaker management team took over RPN-9 [Radio Philippines Network], BBC-2 [Banahaw Broadcasting Corporation] and IBC-13 [expansion unknown] including all the radio and television stations in the provinces of the three networks last 1 March, the PHILIPPINES NEWS AGENCY reported last night.

The management team is composed of representatives of the existing management, the Ministry of Information and the Ministry of National Defense. The management team is tasked to take over and assume management control over the operations of the three major networks, the PNA said.

In a meeting yesterday, the broadcast city management committee announced that normal operations shall continue.

Agencies and advertisers including block time buyers are advised that payments to the three networks should be made directly to Broadcast City through Ignacio Santos, credit and collection manager. Payment should not be remitted or addressed to Aricor, Texcor and Ramar.

All suppliers holding checks from any of the three networks are advised to see the respective cashiers so proper replacement of these checks can be made. This applies only to Metro Manila suppliers, a press statement said.

/9738
CSO: 5500/4326

ARTICLE ON ANNIVERSARY OF NEWS AGENCY

BK280457 Manila PNA in English 0401 GMT 28 Feb 86

[Article by Al O. Labita Jr]

[Text] Manila, 28 Feb (PNA)--The PHILIPPINES NEWS AGENCY (PNA) marks its 13th anniversary on Saturday, 1 March, amid a pervading euphoria over the "people's power" that swept the country into a revolutionary government.

Employees who have distinguished themselves in their career and years of service will be awarded in an auspicious ceremony that coincides with the austerity program of President Corazon Aquino. Aquino, the Philippines' and Asia's first and only woman president, has called on the people for self-discipline in pursuit of her national reconstruction program.

The anniversary, the first under the Aquino Administration, will be highlighted by a mass to be officiated by Fr. Roberto Clemena, SVD.

The occasion unfolds at a time of surging tide for change in which the PNA, on stream since 1973, has not been found wanting in dynamism, innovations and vision.

A five-year development plan, initiated by Jose L. Pavia, general manager, has been conceptualized and is now being gradually pursued within the limits of available resources. The plan basically involves the professionalization of the PNA's manpower through skills acquisition and upgrading, technical capability, organizational build-up, and expansion of services. Rapport has been established with external agencies and organizations here and abroad to help the PNA realize its desire goals and objectives.

The UNESCO, for example, extended a grant to the PNA last year to finance the agency's manpower training program. The grant forms part of a package of assistance the UNESCO has committed to news agencies in the Third World for a new international information order.

The PNA's functional tie-up with the Organization of Asia-Pacific News Agencies (OANA) and the ASEAN News Exchange (ANEX) had likewise enabled it to broaden its editorial and technical capability and expertise.

The forward-looking five-year development plan--a first in the PNA--may also be construed as the agency's modernization thrust toward computerization of its communications setup. It dramatizes in more ways than one the PNA's conscious efforts to assert its identity as a major force to reckon with in the fields of mass communications and journalism.

Across the archipelago, the PNA boasts of a teleprinter network--another first in the history of Philippine journalism--linking the three principle islands of Luzon, Visayas and Mindanao.

The PNA coughs out an average of 80,000 words a day, bringing news to a long list of subscribers that include all major Manila dailies, 16 community newspapers, all 5 television networks, 3 radio networks, 2 news magazines, several provincial radio stations, 9 foreign news agencies, the U.S. Embassy and the Indian Embassy.

The backbone of the PNA is its domestic operations. As of February this year, 19 bureaus have been set up in strategically located major urban centers in the country.

A group of senior editors mans the Manila central news desk, sorting out and processing domestic, business and foreign news, and sports and features.

As the official news agency of the Republic of the Philippines, the PNA carries government-related news. Through its teleprinter network nationwide, national policies are instantaneously disseminated to the grassroots and feedback is gathered in the same manner.

/9738
CSO: 5500/4326

BRIEFS

RESTRUCTURING OF RADIO FREQUENCIES--The National Telecommunications Commission is currently undertaking a radio frequency management project to facilitate advance renewal of schedules for radio station licenses. The renewal of schedules covers, among others, the fixed and land mobile service stations which start on 1 February to 30 June, and the maritime aeronautical and amateur service stations on 1 July to 31 August. The project is aimed at rationalizing and restructuring the existing radio frequency sector. This will be done by establishing a computer-based information processing system for the national frequency master file. This master file will serve as a basis in the processing of renewal and applications for new licenses. [Text] [Quezon City Maharlika Broadcasting System in English 0300 GMT 20 Feb 86 HK] /9738

CSO: 5500/4326

OTTAWA APPROVES SALE OF MITEL TO BRITISH TELECOM

Toronto THE TORONTO STAR in English 27 Feb 86 p E3

[Text]

OTTAWA (CP) — The federal government has approved the $320 million sale of 51 per cent of the shares of Mitel Corp. of nearby Kanata to British Telecommunications PLC.

The deal was announced yesterday by Sinclair Stevens, the minister who reports to Parliament for Investment Canada — the agency that replaced the Foreign Investment Review Agency.

Stevens, in a brief news release, made no mention of terms of the sale. Mitel said when the British government approved the deal last week that a 51 per cent share purchase would mean the purchase of 40 million shares at a cost of $320 million.

British consent was granted after an inquiry by the British Monopolies and Mergers Commission. It was given subject to several conditions protecting British manufacturers of telecommunications equipment.

Stevens said the deal will give financially troubled Mitel "much-needed financial resources" to continue developing and producing communications products in Canada. Manufacturing and research jobs will also be saved, he said.

Mitel has lost money for several years as sales of its telephone switching systems have lagged behind production in competitive world markets. Critics have blamed its troubles on imprudent expansion.

Mitel controls 25 per cent of the world market for computerized office telephone switches of less than 100 lines — known in the industry as PABXs. Financial problems have prevented it from seeking a larger market share.

Sales of its large SX-2000 switch, introduced in 1984, have not lived up to projections. A mid-sized SX-500 switch now is being developed for sale in British and European markets.

/9317
CSO: 5520/69

SATELLITE OWNERS MOVE TO FILL UNUSED CHANNELS

Toronto THE GLOBE AND MAIL in English 1 Mar 86 pp B1, B3

[Article by Lawrence Surtees]

[Excerpts]

Like cars crowding an urban expressway, 25 U.S., Canadian and Mexican satellites share a narrow band of space 22,300 miles above the equator, receiving and transmitting millions of messages a day.

But, just as many rush hour cars carry only one or two passengers, many of the satellites are under-used, the result of over-ambitious planning by the eight North American satellite owners. However, the overcapacity may be shortlived.

Meanwhile, to stimulate demand, the owners have reduced prices, offered two-for-one deals, and granted special discounts to customers who can find new applications for the $100-million investments.

Telesat Canada, which owns five of the satellites, has begun a program for experimental users that offers a 75 per cent discount on the normal $75,000 to $100,000 monthly rental fee for a full channel.

Two trials have been conducted so far:

☐ The Saskatchewan Wheat Pool broadcast a series of nine cattle auctions to feedlot buyers in Ontario.

☐ Newfoundland Telephone Co. Ltd. of St. John's and Spar Aerospace Ltd. of Toronto tested a special earth station that can be used on offshore drilling platforms.

Eight more tests are expected to start in the near future.

The present overcapacity is not expected to last beyond 1987, however. The explosion that destroyed the space shuttle Challenger and this week's destruction of a Soviet satellite point to the hazards of the business. The expected delay of further satellite launches by the space shuttle because of the accident will also dry up surplus capacity.

The recent shakeout among U.S. domestic satellite carriers, because of mergers and acquisitions, was in marked contrast to the lineups at the launch pads three years ago, when the U.S. Federal Communications Commission ruled in 1983 that satellites could be spaced closer together, creating the orbiting traffic jam.

Placed in geostationary orbits by rockets and shuttles, the satellites rotate at the same speed as the Earth permitting ground-based antennas to remain fixed on them to distribute voice, data and video signals.

Many of the 25 are near the end of their eight-year life span, which led to a turnaround of the current low business cycle. "Fewer replacement satellites will be launched because of soft demand, rising launch costs and extremely high insurance costs," said Eldon Thompson, president of Telesat.

He said the temporary halt of the shuttle program has already set back the launches that will be needed next year to replace inoperative satellites. And that will lead to a temporary shortage of satellite capacity.

The loss of more than $800-million worth of satellites in the past two years has also led to increased insurance premiums that will force owners to charge higher rates to users of the next generation of satellites.

Mr. Thompson smarts, however, at negative portrayals of the current glut. In his view, Canada does not have more satellites than it needs.

He remembers when Telesat was "publicly castigated for having too little satellite capacity" six years ago. Based on the broadcasting industry's enthusiasm for satellites and the prospect of many pay-television and speciality program networks being licenced in the early 1980s, Telesat ordered the construction of five satellites: three Anik C and two Anik D satellites.

Communication satellites currently operate in two different frequency ranges. The more powerful Ku-band satellites, such as the Anik Cs, receive signals transmitted from large uplink antennas in the 14 gigahertz band and retransmit them to receiver dishes in the 12 GHz band. The less powerful C-band satellites, such as the Anik D family, receive 6 GHz signals and retransmit in the 4 GHz band.

The higher power of Anik C allows users to receive signals with much smaller dishes. This feature makes the Ku-band satellites ideal for broadcast users and others who want to send information direct-to-home.

Telesat's earlier demand forecasts were given a further boost when several U.S. customers signed contracts for the remaining spare capacity Telesat had in 1982. "We were held up and handicapped in that effort for many months," Mr. Thompson said. Although Telesat made $18-million (U.S.) from temporary U.S. customers, he blames regulatory delays for the loss of an additional $12-million in revenue.

As those U.S. customers headed back across the border, the expansionist period in the Canadian broadcast industry ended. And business applications of satellites remain in an infant state of development.

With one of the Anik Cs as a spare; Telesat has customers assigned to 73 of the available 104 channels.

Faced with a slump and a pre-tax loss of $2.2-million in 1983, Telesat placed one of its Anik C satellites for sale in 1984.

For the year ended Dec. 31, 1984, Telesat had revenue of $109.2-million, compared with $88.1-million a year earlier. Profit after taxes and an annual settlement from the telephone company members of Telecom Canada was $16.9-million, compared with $13.2-million in 1983.

"There may be an over-all glut right now, but its nature varies greatly between the type of user and type of satellite," said industry watcher Berge Ayvazian, director of research and planning at Kalba Bowen Associates Inc. of Cambridge, Mass.

He said the market for the satellites that operate in the C band has matured. These satellites accounted for 408 working channels, compared to the 68 higher frequency and more expensive channels on the Ku-band satellites at the end of 1985.

Specialty cable services in the United States have become concentrated on three satellites. But further growth in the broadcast market arises from the potential of direct-to-home broadcasting. Telesat also "hopes to have a fling with direct broadcast satellites to generate more revenue," Mr. Thompson said.

Conventional broadcasters are also using satellites to gather and transmit news feeds to their stations more quickly; an application that was not economical until recently, Mr. Ayvazian said. Telesat has marketed such services to Global Communications Ltd. of Toronto, and the Atlantic Television Network of Halifax has a fleet of vans equipped with satellite transmitting antennas.

Throughout North America, business applications have been slower to develop because of the wide variety of competitive land-based services offered by the telephone companies. "Telesat is not exactly sitting on a gold mine, but two policy changes have coincided with market conditions to make it more favorable to innovate," Mr. Thompson said.

First, a change last July now permits Telesat to retail its services directly to business users for the first time since its creation in 1969. Previously, it was "a carrier's carrier" and could only wholesale satellite channels for non-broadcast use to the telephone companies. Second, the federal Government will lift the restrictions on ownership of transmitting antennas in April.

Mr. Thompson's prognosis is one of cautious optimism, now that Telesat is free of the marketing yoke of the telephone companies. "We have to pick areas where satellites have advantages and can compete effectively against the telephone companies. I don't think there will be any great spurt of demand, but then no one has ever aggresively sold satellite networks in Canada."

/9317
CSO: 5520/69

MONITORING STATION TO RECEIVE FRENCH SATELLITE DATA

HK230525 Hong Kong AFP in English 0331 GMT 23 Feb 86

[Text]

Ottawa, Feb 22 (AFP) — Canada is completing a data monitoring station which will shortly be able to receive information from the French earth observation satellite SPOT [Exploratory Satellite for Earth Observation], placed in orbit early Saturday, Mines Minister of State Robert Layton said here.

The station located in the La Gatineau Hills in Quebec near Ottawa and is to be inaugurated in mid-May.

This and a similar station in operation at Prince Albert in Saskatchewan, western Canada, will ensure reception of SPOT data for the whole of Canada and the United States, a ministerial statement said.

SPOT pictures of earth, which are three times more precise than those of the U.S. satellite Landsat, are expected to be widely used in Canada in map-making, geology and crop monitoring.

/9317
CSO: 5520/69

BRIEFS

SALES TO INDONESIA--International Trade Minister James Kelleher announced Friday that two Canadian companies will be selling $40 million worth of goods to Indonesia for an ambitious coal and railway development project. A spokesman for Kelleher, on a two week trade mission to Southeast Asia, said the first deal involves the sale of $36.5-million worth of telecommunications equipment and services from International Aerodio Ltd. The contract with the Richmond Hill firm includes the installation of equipment associated with the Bukit Asam coal-rail project and training Indonesian workers. The other deal involves the sale of telecommunications services and equipment by Lab-Volt Ltd. of Montreal, worth $548,000 US. Earlier this week, Indonesian officials agreed to buy another $54-million worth of Canadian goods. [Text] [Ottawa THE WEEKEND CITIZEN in English 15 Feb 86, p E7] /12851

GRANT TO SR TELECOM--SR Telecom Inc. of Montreal will receive a federal Department of Regional Industrial Expansion grant of almost $2 million for the development of a new generation of subscriber radio telephone systems. The company exports about 80 percent of its output of existing lines of radio telephone systems. [Text] [Ottawa THE WEEKEND CITIZEN in English 15 Feb 86 p B7] /12851

CSO: 5520/67

BRIEFS

PHONE EXCHANGES FROM SWEDEN--Ericsson's Brazilian subsidiary, Ericsson do Brasil, has in principle received the green light for a state Brazilian order of telephone exchanges valued at over 1.3 billion Swedish kronor. The large order to Ericsson has come after a political decision to prioritize the telephone industry. During 1986 the Telecommunications Ministry plans to invest 1.8 billion dollars in 1 million new telephone lines. Ericsson is the only Swedish firm which is listed on the stock exchange in Brazil. About 60 percent of the stocks are owned by Ericsson in Sweden, while over half the stocks with voting privileges are in Brazilian ownership. [Text] [Stockholm SVENSKA DAGBLADET in Swedish 16 Jan 86 p 1] 12562/12624

CSO: 5500/2577

BRIEFS

RESUMPTION OF LOCAL TV--Roseau, Dominica, Feb 25 (CANA)--The Dominica Government says it will commence limited local television programmes on a regular basis for the first time since its television services were destroyed by Hurricane David in 1979. The Government Information Service (GIS) says bi-weekly programmes of local interest will be aired on Tuesday and Thursday evenings, starting tonight, on a privately-owned cable television station. Before David's devastation, local news and programmes were presented regularly from a state-owned television station. A GIS release says it is hoped that this regular series will help alleviate the preponderance of foreign programmes picked up by satellite and relayed by the various companies operating in Dominica. The cable television station has been operating on 9 channels featuring mainly programmes from the United States interspersed occasionally by local programmes of national interest. Another local television station has been doing similar programming on another channel. The GIS says the production of local television programmes is limited at this time because of the high costs involved, but the government intends to alleviate this situation by introducing a television unit within the department. [Text] [Bridgetown CANA in English 2346 GMT 25 Feb 86 FL] /6091

CSO: 5540/046

GOVERNMENT CHARGED WITH CENSORSHIP OF PRESS, RADIO

Georgetown OPEN WORLD in English 20 Jan 86 p 4

[Editorial]

[Text] There is a reign of terror at Guyana Broadcasting Corporation. The recent dismissal of Mr Hugh Hamilton has left the staff in no doubt that the Corporation has no use for journalists.

It is a mad system that wants to decide for journalists what is and what is not news. If the ruling party has to intervene between the news and the listener as often as it does, then perhaps it does not need journalists at all. Cde So and So could very well do. Many of the staff may find that they are over-qualified. Since the dismissal of Mr Hamilton there has been a sharp drop of morale on the staff.

The cold-bloodedness of the policy is brought out by an interesting coincidence. Many announcers have had to read the news that Fr Connors was expelled for unstated reasons which GBC wanted the public to accept as valid reasons. Now a radio announcer is dismissed without a reason being announced, thus placing him, as far as the public is concerned, in the same boat as Fr Connors.

It is no secret that the government press and radio are subject to censorship by a ruling party that has a lot to hide and a lot that cannot be hidden. The PNC is conspiring not only to starve the people of essential foods, but of essential information as well. The PNC is an enemy of the whole person, body and mind.

As a section of the press, OPEN WORD condemns the dismissal of Hugh Hamilton as a high-handed act of power-crazy people. It calls on the authorities to save us from secret punishments and urges that formal protests be lodged.

/9317
CSO: 5540/043

BRIEFS

COMMUNICATIONS GEAR INSTALLED--A telephoto system for the international transmitting and receiving of photos was recently put into use. This system, which is a grant-in-aid of the friendly Soviet Union, has been given by TASS to BIA. The system has been installed and assembled in the DRA Ministry of Communications by BIA technicians with the cooperation of Soviet experts. With the installation of this system, the newspapers and journals of the country no longer need photos of international events. Ground is thus prepared for transmitting photo information of events inside the country to abroad. [Text] [Kabul Domestic Service in Dari 1330 GMT 18 Feb 86 LD] /6662

CSO: 5500/4726

FINLAND TO BUILD PHONE NET WITH OWN AID FUNDS

Helsinki HELSINGIN SANOMAT in Finnish 23 Jan 86 p 7

[Article by Jussi Vuotila: "Nokia to Build 370 Million Markka Telephone Net for Egypt"]

[Text] Foreign Minister Paavo Vayrynen and Egypt's Assistant Prime Minister Kamal Ahmed al-Ganzuri agreed on Wednesday in Cairo to build a 370-million markka telephone network north of Cairo primarily with Finnish funds. The project is the largest private cooperative development objective of all time. The Finnish part of the expenses is altogether 325 million markkas of which 20 million is grant aid, 155 million development credit and 150 million export credit.

The project will be built by Nokia, which has been participating in its development for years. At present the project employs about 50 Finns, Nokia estimates.

Nokia has been ready to begin work for some time, but the Egyptian decision had been delayed until now. The delay could have been even longer without the push provided by Vayrynen's official visit.

During the next 4 years the telephone networks will consumer the lion's share of the development funds allocated by Finland for Egypt (in 1986 altogether 60 million and in 1987-88 about 70 million markkas). The development credit will, practically speaking, be used in its entirety and of the grant aid a quarter will be used first, and later a sixth.

In spite of its size the telephone project will not paralyze other cooperative development work in Egypt, because in earlier years plenty of development funds had been left unused due to lack of proper objectives. With them it is possible to fund, without any problem, the projects now under way and 10 more objectives that are in the planning stage.

Largest Objective

Measured in markkas the work obtained by Nokia is without doubt the largest private Finnish bilateral development project. To be sure, the comparison is weakened by the fact that the project, exceptionally, also utilizes export credit.

If only the cooperative development funds are used as a basis of comparison, the Nokia project takes second place in size. Number one is the Pha Rung dock work in Vietnam. It has received 190 million in development aid. The telephone network will use altogether 175 million in development funds.

In addition to these two giant projects, Finns have only a few development objectives costing somewhat over 100 million, most of them in Tanzania.

The telephone project is the first great cooperative development project utilizing mixed funding, i.e. development aid and commercial funding. These so-called mixed-fund projects have to meet development aid criteria. Finland is planning other mixed-fund projects in the near future, among others in China, Indonesia and Thailand.

The telephone network and 13 exchanges will be built by Nokia in the cities of Aussim and el-Khanka northeast and northwest of Cairo. The cities are practically speaking suburbs of Cairo with a combined population of about a million. In the initial phases, there will be only about 35,500 telephone subscribers.

Just before his flight to Kenya, the second destination of his African trip, Vayrynen reported that the work on the project will start immediately. The work will begin first in the Aussim area. It was not possible, however, to agree on all the details associated with the project during the meeting of Vayrynen and Ganzuri.

The agreement between Nokia and Egypt's telephone administration, Arento, will be signed during early spring, possibly in March.

While speaking to Ganzuri, Vayrynen also brought up the question of tariffs for lumber, which are clearly higher for Finnish than for other imports. According to Vayrynen, Ganzuri took a positive attitude toward the subject and promised to take it up for discussion with other ministers.

In spite of the unjust tariff treatment, the export of Finnish lumber here has fared so well that by the first half of last year Egypt was the most important export country for Finnish lumber.

In addition, during the last day of his 5-day visit, Vayrynen again negotiated with the Assistant Foreign Minister Butros Butros Ghali.

From Kenya, Vayrynen's entourage will continue its trip to Zimbabwe, where other Nordic ministers responsible for cooperative development work will meet next week to plan common enterprises to aid southern African countries.

12989/9435
CSO: 5500/2578

INDO-FRENCH WORKING GROUP IN INFORMATICS MEETS

Calcutta THE STATESMAN in English 21 Jan 86 p 9

[Text] New Delhi, Jan 20--France's willingness to collaborate with India in the field of electronics was voiced at a meeting of the Indo-French working group on electronics and informatics here today. "We are keen to share our technology with you," the leader of the French delegation, Mr C. Stoffiaes told the meeting.

The working group was set up following the signing in June 1983 of a protocol between India and France in electronics and informatics. The two-day meeting, which began today, is the third such meeting of the working group and is designed specifically to review the various projects already undertaken under the protocol.

Mr Stoffiaes noted that his country was progressively modifying its technology and developing new ones to suit the changing economic and industrial needs and France would be glad to transfer all such technology to India. It would also be happy to increase the number of projects under the protocol.

Mr S.R. Vijayakar, Secretary in the Department of Electronics, said the areas selected for such projects should be ones where an effective impact was possible in relation to this country's requirements. "Also, the strengths and needs of the two countries in this entire field should be first identified and any project undertaken has to be in relation to our mutual needs."

The chairman of the Electronics Commission, Dr M.S. Sajeevi Ilao who presided, wondered why speedier progress could not be made in the projects launched already under the protocol. He noted that the Indo-U.S. programme in the field of electronics had made spectacular progress. "I do not see any reason why we cannot make similar progress in the programme of Indo-French cooperation also." He requested the members of the working group to see how the best progress could be achieved.

Dr N. Seshagiri, additional secretary in the Department of Electronics, emphasized that the transfer of technology from France to India was open and faced no constraints whatever.

He attributed this to the very similar political and economic setup in the two countries. He, however, agreed that the implementation of the projects undertaken under the protocol required to be speeded up.

He suggested that with the Department of Electronics having laid down the guidelines for cooperation it would certainly be better if discussions between entrepreneurs seeking technology or transferring it were to take place "autonomously" with the Government associated with the process at the final stage. "It should not be that everything has to be come through the Government," he added.

Dr Seshagiri also presented a kind of progress report on the various projects undertaken under the protocol. These are in three broad fields: computer hardware, software and networks; instrumentation; and components. His report was that, except for one project which he felt may have to be abandoned, the majority had made commendable progress and that problems, if any, might be sorted out at the present meeting.

/9317
CSO: 5550/0092

ITI CHAIRMAN TELLS PLANS FOR IMPROVEMENTS

Calcutta THE TELEGRAPH in English 23 Jan 86 p 6

[Text]

Calcutta, Jan. 22: Indian Telephones Industries Limited (ITI) is expected to set up a third unit to manufacture switching systems towards the end of the Seventh Plan. The unit will probably use the C-DoT technology, which is being indigenously developed at the Centre for Development of Telematics. The company has not yet decided on the location of the proposed unit, according to Mr K.P. Nambiar, chairman and managing director of ITI.

ITI has entered into an agreement with CIT-Alcatel Thomson of France for the manufacture of digital electronic switching systems (ESSs) of 500,000 lines per year for direct exchange units at its Mankapur unit and 30,000 lines per year for trunk automatic exchanges at its Palghat unit. A similar ESS facility to manufacture 500,000 additional lines will be established at the Bangalore unit very shortly by phasing out the crossbar exchange manufacturing programme within two years. The Mankapur facility is nearing completion, Mr Nambiar told newsmen here today. By 1989-90, ITI will be manufacturing one million lines per annum, he added.

Mr Nambiar said ITI needs an investment of Rs 610 crores in the Seventh Plan for diversification, technology upgradation and expansion. The Central government had approved a total capital outlay of Rs 335 crores in the Plan period. The balance Rs 217 crores will be raised in the form of share capital and loans from the government, by issuing bonds and through internal generation etc.

ITI is entering the capital market on February 3 with an issue of 10 lakh 14 per cent redeemable non-convertible bonds (A series) of Rs 1,000 each for cash at par, totalling Rs 100 crores. Five lakh bonds are reserved for private placement with UTI, LIC and GIC. The remaining 50 per cent are being offered for public subscription.

Mr Nambiar said the company might go in for a further bond issue of Rs 100 crores, perhaps even next year. In the event of the present issue being oversubscribed, the company intends to retain 50 per cent or a higher sum depending on the permission of the controller of capital issues. The bonds will be redeemable on the expiry of seven years from the date of allotment. ITI is the first public sector company to enter the capital market. This follows the government's policy to allow the telecommunications industry to seek public participation.

ITI has also entered into an agreement with foreign companies in other fields as well. It has tied up with Industrie FACE Standard of Italy in the area of telephone instruments technology. ITI will manufacture 500,000 rotary and 500,000 electronic push button type telephones at the company's Bangalore and Naini units.

For the manufacture of transmission equipment, ITI has entered into technical collaboration with Kokusai Electric Company of Japan for the production of multi-access rural radio systems to enable expansion of rural communication.

Mr Nambiar said the company is considering the possibility of exporting to Vietnam and perhaps to neighbouring countries. In 1984-85, ITI earned a profit before tax of Rs 26.16 crores compared to Rs 20.76 crores in the previous year. Sales, including services, rose from Rs 212.11 crores in 1983-84 to Rs 236.93 crores in 1984-85.

Asked why the bonds were not being listed at the Calcutta stock exchange, Mr Nambiar said this would be done "immediately" He refuted charges that ITI attached low priority to Calcutta. He mentioned some "error" and "formality" to explain why the prospectus did not contain Calcutta as one of the stock exchanges where the bonds would be listed.

Mr Nambiar said ITI is playing an important role in speeding up surface transportation in Calcutta by supplying the entire signalling and train control equipment for the Metro Railway. ITI has also supplied and installed road traffic signalling equipment in various parts of the city. The micro-processor-based system was developed at the ITI's R & D centre.

The company is also negotiating with the Andaman and Nicobar Islands administration for establishing a traffic control system at Port Blair.

/9317
CSO: 5550/0093

PROJECT TO MANUFACTURE MICROPROCESSORS APPROVED

Calcutta THE TELEGRAPH in English 21 Jan 86 p 6

[Text]

Madras, Jan. 20 (PTI): The Centre has approved a Rs 2 crore project for manufacturing microprocessors and super micro computers, with headquarters here.

The Tamil Nadu industries minister, Mr K. Rajaram, today said that the state owned Electronics Corporation of Tamil Nadu's joint venture company, Infotech would set up the project in collaboration with Stride Micro of the USA was likely to begin production by the end of this year. The company would serve as a turnkey system supplier providing not only hard ware but also comprehensive software, training and installation support to its clients. It would manufacture 'motorola 68000 and 68020 micro processors' and 'VME BUS based super micro computers.'

The company's manufacturing unit would be located at the State Industries Promotion Corporation of Tamil Nadu (SIPCOT) industries complex at Gummidipoondi in north of Madras. It would give direct employment to 300 computer professionals and engineers, Mr Rajaram said.

The minister also informed that a modern electronic push button telephone manufacturing plant, being set up at suburban Nandambakkam, is to begin commercial production by September or October this year.

A joint venture company, Telematics Systems Limited, has set up a Rs 4.65 crore project, in technical collaboration with Siemens, Germany. The installed capacity of the plant would be five lakh telephone instruments both of "decadic and DTMF versions."

Mr Rajaram said that the initial equity participation by the state government through Electronics Corporation of Tamil Nadu would be Rs 37.70 lakhs.

/9317
CSO: 5550/0095

INDIA READY TO UTILIZE FIBER OPTICS

Madras THE HINDU in English 12 Feb 86 p 17

[Text]

India is now poised to make use of fibre-optics, the new technology of transmitting information with beams of light.

Over 22 research institutions in the country are working on various aspects of materials and systems for optical communication such as drawing of low-loss optical fibres, splicing and connecting techniques, modulation and demodulation techniques, multiplexing and demultiplexing techniques and system studies.

The Telecommunication Research Centre in Delhi has developed a terminal equipment for a 120-telephone channel system while the Indian Institute of Technology in New Delhi has a facility for testing fibres and engaged in perfecting already existing measurement techniques and trying to develop new methods to characterise fibres (pulse dispersion, attenuation, refractive index profile measurement).

The Central Electronics Engineering Research Institute at Pilani has developed silicon avalanche diodes for detecting and decoding laser pulse at the receiving end, while the Instruments Research and Development Establishment in Dehra Dun and the Central Scientific Instruments Organisation in Chandigarh have developed a variety of fibre-optic components for Defence. Besides, a variety of fibre-optic components developed for various applications are: light guides of different lengths and aperture, aligned flexible fibre bundles used in sigmoidoscope, fibrescope and traffic signs; solid fused bundles or face plates.

The Defence Solid State Physics Laboratory in Delhi has succeeded in fabricating the gallium — arsenide lasers, while the CSIO is developing a machine for drawing plastic coated silica fibre. A more sophisticated facility at the Central Glass and Ceramic Research Institute in Calcutta has already produced experimental quantities of 'graded-index' multimode fibres.

Research and development and measurement techniques related to characterisation and evaluation of communication grade fibre are being done at the Indian Institute of Technology, Delhi, and the Central Scientific Instrument Organisation Chandigarh. These institutes are capable of performing well-identified and complementary tasks if they are assigned to them in a coordinated manner. Other IITs are also in the process of setting up similar facilities.

Research in the field of launching optical signals and detection of signals with imported sources is going on in several other institutions.

Work is being done on terminal circuitries for converting sources detectors into different systems-required-transmitters/ receivers and also repeater stations.

The IIT, Kharagpur, has recently started an M.Tech course covering technology of optical fibre communication systems with its associated devices, materials and components to meet the manpower requirement. Courses on optical communication are also being given at some of the other IITs, the Indian Institute of Sciences, and some other universities.

The first optical fibre communication system was set up in Pune connecting Shivaji Nagar and Cantonment Exchanges. Buried two metres underground, the glass-fibre of 8 Mb/s capacity imported from Japan provides 120 telephone channels and has been functioning without any fault since 1979. — **P.T.I. Science Service**

/9317
CSO: 5550/0094

BRIEFS

SAIL COMMUNICATIONS NET--Madras, February 9--The Steel Authority of India Limited (SAIL) is going in for a "Steelnet," hailed as an exotic medium of communication unaffected by breakdowns and weather changes. Using the INSAT 1-B satellite, the new system will bring together all public sector steel works within a communication network. It is expected to become operational in about 15 months. It will be for the first time that a commercial enterprise will be using INSAT 1-B facility. To be implemented in three stages, Steelnet will provide four types of communication facsimile transmission and data transmission through satellite terminals for establishing direct links between the corporate office at New Delhi and steel plants at Bhilai, Bokaro, Durgapur, Alloy steel plant at Rourkela, Burnpur, Salem and the central marketing organisation at Calcutta. Steelnet is expected to prove its worth in the export field where it will enable the Indian steel industry to match the "electronic speed" with which international markets operate, thus facilitating quick reaction to international inquiries. The network will eventually include a series of earth stations linked to the satellite and together with other ground communication systems will use microwave/VHF/fibre optic cable transmission services, leading to quicker exchange of information between producer-seller and the user and faster decision making. At present, the Oil and Natural Gas Commission and the Post and Telegraphs use the satellite for voice and data transmission. Initially, SAIL will use the P&T earth stations to achieve better communication between stockyard and shipping by linking offices of SAIL in ten important cities with the corporate office. There will be a provision for teleconference, thus rendering travel by executive unnecessary. [Excerpts] [Bombay THE TIMES OF INDIA in English 10 Feb 86 p 1] /9317

FIBER OPTICS USE--Bombay, February 2--For the first time in the country, the latest in communication system technology involving the use of fibre-optics has been incorporated to facilitate faster and better transmission of data. This system has been installed along the 160 km pipeline of the Hindustan Petroleum Corporation Limited (HPCL) which was commissioned yesterday at Loni near Pune. The communication cable system comprises four fibre-glass strands along with six copper conductors, and will provide 1,920 channels of communication simultaneously. It will monitor various operations along the entire length of the pipeline. The pipeline, which will replace transportation of petroleum products by rail and road, starts from the HPCO refinery in Trombay and goes through the western ghats to end at Lone, 18 km from Pune. [Text] [Bombay THE TIMES OF INDIA in English 3 Feb 86 p 6] /9317

CSO: 5550/0096

IRAN

BRIEFS

NEW SATELLITE STATION--Due to the efforts of the personnel of the television transmitter units of the Voice and Vision of Islamic Republic of Iran in Bushehr, the third satellite station named (Shhid Nazar Tarmideh) station in (Dehrud-e Poshteko) started operation recently. According to a Central News Unit report, this 10-watter transmitter will enable the residents of (Dehrud-e Sofla), (Parchonak), and [name indistinct] to receive the programs of the first network of the Vision of the Islamic Republic of Iran on Channel 10. [Text] [Bushehr Domestic Service in Persian 1330 GMT 23 Feb 86 GF] /6662

CSO: 5500/4725

ARABSAT DIRECTOR ON ARABSAT-1 PROBLEMS, ARABSAT-2 PROGRESS

GF162008 Riyadh AL-RIYAD in Arabic 15 Feb 86 pp 1, 19

[Article by 'abd al-Muhsin al-Murshid]

[Text] The status of the first Arab satellite, Arabsat-1, is still not clear, because the equipment that guides the satellite is malfunctioning. The satellite is now being operated manually in an attempt to improve the situation. An emergency plan is expected to be drawn up to improve the satellite's position. The continuation of some of the tests that are being carried out to repair the present fault could pose a risk to the satellite itself.

Contacts between the Arab Satellite Communications Organization [Arabsat] and the insurance company that insured the Arab satellite are continuing so that the company will pay for the fault. There is a provision that the Arab satellite has to be positioned in a good orbit within a specific period after launching, and Arabsat-1 has not yet reached that position.

In a statement to AL-RIYAD, Faysal Zaydan, under secretary at the [Saudi] Ministry of Posts, Telephones, and Telegraph and Arabsat director, has said the status of the first Arab satellite is still not clear, because there has been a malfunction in some of the equipment and it is being operated manually. The manual method cannot be guaranteed and a future emergency plan will be drawn up to deal with the situation.

Arabsat-2, whose launching was supervised by Prince Sultan ibn Salman ibn 'abd al-'aziz, is operating satisfactorily. It was first operated during the 1985 pilgrimage season when it was used to transmit the pilgrimage rites. It is now being used for communications among the Arab countries. There are now 10 Arab ground stations for the satellite for both communications and the exchange of television broadcasts. Saudi Arabia is the first country to use it to enhance its domestic communications.

Faysal Zaydan said that tests on the orbit of Arabsat-1 have not been completed because they may pose a risk to the satellite, and therefore Arabsat is waiting for an emergency plan which the manufacturing company is expected to draw up.

Answering a question on claiming financial compensation from the insurance company, Zaydan said that there are certain provisions in the insurance contract, such as that within 181 days of launching the satellite has to be positioned in a defined orbit and with defined specifications, and this has not been achieved. Arabsat is still discussing the matter with the insurance company.

/12858
CSO: 5500/4501

BRIEFS

TRANSMISSION STATION--Dunqulah, Sudan, 9 February (SUNA)--The Department of Planning and Projects at the National Radio and Television Commission the day before yesterday took over the radio transmission station constructed in the Shaykh Sharif area in the norther region 8 km from the city of Dunqulah. The station, which was constructed with aid from the Japanese Government, will broadcast experimentally for 6 hours daily. [Text] [Khartoum SUNA in Arabic 1423 GMT 9 Feb 86 NJ] /12232

CSO: 5500/4616

RADIO MOSCOW SERVICE IN AFRIKAANS AIMED AT WHITES

Johannesburg THE STAR in English 5 Mar 86 p 8

[Article by Neil Lurssen]

[Text]

WASHINGTON — The South African Broadcasting Corporation is not the only radio service to broadcast in Afrikaans.

Now, Radio Moscow has its own Afrikaans service and, not surprisingly, it is aimed at whites in South Africa.

While the broadcasts on Moscow's Afrikaans service are not the kind that would find favour at Auckland Park, they are, by Soviet standards, surprisingly free of the mind-numbing sloganeering that Russian radio commentators find so appealing.

VERBIAGE

In the Soviet media, which is monitored daily in Washington, it is rare that references are made to, say, the South African Government without the adjectives "fascist" or "racist" or at the very least "supremacist." A favourite term is "ruling clique".

But in Moscow's Afrikaans broadcasts, much of the verbiage is discarded and the word "government" is used without decoration. Instead of the customary "oppressed masses", the phrase "black South Africans" is used.

The intention clearly is to avoid alarming Afrikaans-speaking whites so much that they will switch off.

In a recent broadcast Soviet commentator Aleksander Fedorov admitted he got most of his material from Radio South Africa itself.

But Comrade Fedorov reported he has not been getting good service from the SABC.

He complained he had not been able to get hot commentary on issues out of Johannesburg recently and ... "so I am unable to get accurate information on the situation inside the country. My aim is to get the views of whites on events in South Africa."

But having informed his listeners that he depended on Auckland Park for accurate information, he then went on to say South Africans were not told what was happening.

"Nevertheless even people who are not told the facts can learn from their own history and that of other nations," he said.

The lessons of history for white South Africans, Mr Fedorov suggested, were that the Nazis failed to make slaves of millions of people in World War 2 and that 90 liberated nations, 50 of them in Africa, were once colonies.

"Forecasts are now being made in South Africa," Mr Fedorov said. "Some say there could be a black government there by the year 2000."

Moscow Radio broadcasts to Southern Africa in other languages too, notably Zulu.

/9317
CSO: 5500/52

VOA STATION IN NEGEV SAID U.S. 'PSYCHOLOGICAL WARFARE' WEAPON

TA081500 Moscow Radio Peace and Progress in Hebrew 1730 GMT 7 Feb 86

[Unattributed commentary]

[Text] Official sources in Israel have announced that the infrastructure work for the installation of the VOA relay transmitters has begun in the 'Arava. The area has been plotted and a decision was made on the transfer of equipment for the earthworth.

The impression is that the master of psychological warfare beyond the ocean, and the enemies of the socialist countries, have all the reasons to be happy. Here, one of the most ingrained visions of the political top echelon in Washington, to put Israel at the forefront of the anti-Soviet campaign, is coming true. It is easy to understand what Washington stands to gain from this. After all, if Israel makes a greater contribution to the anti-Soviet (?salute) of imperialism this will strengthen its strategic alliance with the United States. Another reason, no less important, is that if Israel joins the U.S. anti-Soviet campaign at such a level this will eliminate any chances for improving its relations with the socialist countries.

Washington needs this to make sure that Israel continues to serve the United States in the future as well, and that it conducts an aggressive policy to bolster U.S. interests in the Middle East.

Official circles in the United States wishing to install relay transmitters of anti-Soviet propaganda in Israel and to incorporate Israel in the psychological war understand very well that these moves will not only have an adverse effect on the Soviet Union, but will also harm the entire complex of relations among the countries. It seems that the Israeli top echelon also realizes this. However, if this is the case, it means that there is not even a trace of truth to the recent statements made by Israeli Cabinet ministers to the effect that they want to renew diplomatic relations with the Soviet Union and to improve relations with the socialist countries as a whole.

That is to say, the words and the needs do not go hand in hand. It is a regrettable fact that the (?supporters of the transmitters) in Israel are being dragged about by the extremist anti-Soviet circles in Washington who hate anything related to the Soviet Union, both its socialist regime, our economic system, and the support extended to liberation movements throughout the world by the socialist countries.

Those serious Israelis who believe that the Cabinet's decision, to use the U.S. relay transmitters to expand anti-Soviet propaganda, will drag Israel into the ideological struggle between socialism and the imperialist West, along with the extreme right in the United States, are absolutely correct. Through this move, Israel demonstrates loyalty to the unfit [word indistinct] concepts which are aimed at undermining the socialist regime.

Israeli decisionmakers however, should not forget that the psychological warfare that has been waged against the Soviet people by the imperialist circles has never borne any significant results, except perhaps for deteriorating the international situation and exacerbating the tension. Those who wanted, and still want, to mislead the Soviet pulbic and to sow doubts about the supremacy of the socialist regime eventually suffer a devastating failure.

The same fate awaits the new followers of the anti-Soviet propagandists who are trying to distort the nature of Soviet policy.

/6662
CSO: 4423/88

RACE PROJECT SEEN VITAL FOR EUROPEAN INDUSTRY

Amsterdam DE VOLKSKRANT in Dutch 27 Jan 86 p 2

[Article by our correspondent Michèle De Waard: " 'Without RACE Europe Will Decline into Another Africa.' Philips--Uniformity in Telecommunications a Must"]

[Text] Eindhoven--"The situation in the telecommunications sector in Europe has become untenable. Firms have too small a domestic market, and that makes the price of equipment too high. Without government subsidies most firms do not have a chance. It cannot go on like that. That is why the RACE telecommunications project is an absolute necessity."

Dr. N. Hazewindus, head of the Product Development Coordination Office at Philips International leaves no doubt about it. RACE has to be a success. Otherwise the European telecommunications industry can just forget about the future.

RACE, which has just begun, stands for Research for Advanced Communications Technologies for Europe. It is an ambitious plan by the large European electronics firms, the PTT's [Post, Telegraph, Telephone], and the European Commission to create a supermodern, uniform telecommunications network throughout Europe.

It is to be complete by 1995. By then all of Europe is to be covered by a single large network of glass fiber cable, which is also referred to as a broad band communications network. With its large capacity, glass fiber cable not only can carry many more telephone conversations at the same time but also can carry all kinds of other communications, such as cable television, picture telephone, computers, video text, and videotheques.

A narrow band network like the current telephone network is not suitable for that. Some countries like France and the Netherlands are already laying this kind of glass cable network. Cooperation is required, however, to see to it that the cables can be linked up with one another throughout Europe. In this way it will be possible to prevent it from coming about that in a few years each European country will have developed its own system, which cannot be used in other countries.

This problem has already appeared with the car telephone, which cannot be used outside the Netherlands. A silly situation, and in an era known as the Information Age at that.

With RACE the large European electronics firms and the European Commission want to see to it that a single uniform broad band telephone network is built in Europe and thus to prevent random growth, says Hazewindus, who is closely involved with RACE for Philips. The most revolutionary communications technologies will be appearing shortly. It is, Hazewindus says, a must for governments and for business in particular that it be possible to communicate with the new data processing equipment throughout all of Europe.

RACE is just beginning now. The first research phase recently started and is to be completed by the end of this year. This will cost 100 million guilders. In the long run RACE will cost many tens of billions of guilders for laying glass fiber cables and building new digital telephone exchanges.

These initial research costs are being paid for by the European electronics industry, the national PTT's, and the European Community. As RACE progresses, the various governments will be called upon to contribute.

Netherlands participants in RACE are AKZO, Océ-van der Grinten, and Delft Technical University. But Philips and the Netherlands-American telecommunications enterprise AT&T/Philips Telecommunications in Hilversum are far and away the most closely involved in RACE.

Hazewindus says that RACE is of crucial importance to Europe. "The future of the European telecommunications industry is at stake," he says. His worry seems misplaced at first glance. Telecommunications is one of the few high-tech industries in which Europe is doing well for itself.

European firms have more than 30 percent of the world market for telecommunications equipment, which is worth a good $80 billion. And in contrast to the large deficits in the balance of trade in computers and microchips, last year the EC countries had a positive balance of $2 billion in telecommunications equipment.

But appearances are deceiving. The advantages, Hazewindus says, do not compare to the European telecommunications industry's handicaps. What are these? Hazewindus: "The telecommunications market in Europe is totally closed. In the various countries the PTT's play a decisive role. They only work with the national champion, which supplies the necessary equipment. The domestic market is totally protected to keep out competition. This maintains monopolies, which does not exactly inspire further innovation."

The problem is that these firms' domestic market is much too small to permit them to operate competitively, Hazewindus says. It is not possible even to earn back development costs. European industry thus cannot sell its products at world market prices. The result is that the prices are higher than those of the American or Japanese competitors. It is only because the European governments come up with subsidies that the industry stays afloat. "One day that will stop of course," Hazewindus says. "The current situation simply cannot be sustained any longer."

If this policy is not altered, in a few years' time Europe will find itself with a jungle of incompatible communications systems. Furthermore, each of the nine telecommunications firms in Europe is currently being compelled to invest heavily in developing new technologies, which calls for large sums of money.

Thus economic motives are an important incentive for the electronics firms to sign on with RACE. At least they can then reduce research costs.

Hazewindus says that cooperation is all the more urgent since the European telecommunications industry is having a hard time of it in the tougher and tougher competition with powerful American and Japanese rivals like ITT and NEC. Worldwide, production of telecommunications equipment exceeds demand.

A big shake out in the telecommunications industry is inevitable. In Europe especially, where nine firms are getting in each other's way. In this regard the competitors in Japan and the United States enjoy the advantage of a large and fast-growing domestic market.

Moreover the arrival of a new, aggressive competitor on the European market has turned up the heat even further. IBM, the most important supplier of computers in the United States and Europe, has let it be known that it wants to double its market share in the telecommunications sector in Europe in 5 years. The European industry received this news with fear and trembling.

That is certainly so since the computer is beginning to play a central role in telecommunications. Knowledge of the most modern computer and chip technology is an absolute necessity for European telecommunications firms. But that is precisely where Europe is hopelessly behind.

The grim prospect of the American computer giant trying to force its way into the already too crowded European telecommunications market breathed new life into the "pan-European" idea. Thus General Electric Company and Plessey in Britain, Compagnie Generale d'Electricité in France, and Italtel/Telettra in Italy are trying to cooperate. Philips sought cooperation abroad in the alliance with AT&T. Siemens and Ericsson appear to be the only firms in Europe in a position to operate from a position of strength internationally.

According to Hazewindus it is up RACE to give the European telecommunications industry its "great leap forward." "Once the glass fiber cable has been laid in Europe, the industry can go ahead and supply standard equipment for it. In this way the European industry will acquire a much larger domestic market."

It sounds good, but the greatest obstacle still lies ahead: politics. When the RACE research phase has been completed, the EC countries will have to climb into the ring with one another in order to reach an agreement on it. "That is the most ticklish question," Hazewindus admits.

But the EC has to stay the course with RACE, he thinks. "RACE is not only necessary for the survival of the European telecommunications industry. Creating this new infrastructure is simply a MUST [emphasized in original] for Europe. RACE is THE network which will make possible the most modern forms of communications. If you do not have that kind of system, then in the long run you will turn into another Africa."

12593
CSO: 5500/2590

PRIVATE FIRM ENTRY INTO DATA TRANSFER FIELD ENDS MONOPOLY

Helsinki UUSI SUOMI in Finnish 10 Oct 85 p 2

[Editorial: "Private Data Net Being Built"]

[Text] A company supported by private telephone firms has gotten its foot in the door of the national telephone network controlled until now by the telephone administration. A company called Datatie has already created its own data transfer net between southern Finnish cities. The private sector is of course interested in the exploding of an even larger bomb--the penetration of the radio-telephone sector controlled by Postitele.

The general manager of Datatie, Jarmo Kalm, tells how the company's own data transfer net already connects Helsinki, Tampere, Hameenlinna, Forssa, Loimaa, Vammala and Lahti. Turku is also being added to the data net.

A private company, however, cannot, in its own net, transmit calls from one end of the nation to another--that is the monopoly of the telecenter--but on the other hand the old legislation knows nothing about the transfer of mere data messages.

This hole in the fence has now been used successfully by the private sector to its own advantage.

Datatie consists, among others, of the telephone companies of 13 south Finnish cities; the nation's commercial banks; Sanoma Inc; Tampereen Kirjapaino Inc, which publishes AAMULEHTI; plus TURUN SANOMAT.

Competitive Rates

Extensive users of Datatie have already long been complaining about Postitele overcharging for its services, since no real alternative exists.

"And in this spirit our prices are certainly competitive," Kalm ventures to say.

Radiophone Relay Under Discussion

The private sector has, as far as is known, been interested in expanding its telephone services also with its own radio telephone network.

The Postitele NMT-Net, excellent as it is, has appeared to be congested in larger cities and for this reason certain circles have put forth the idea of private radio telephone nets functioning in restricted areas. This, in turn, requires the permission of officials.

This and other telefunctions now fermenting will be clarified through new legislation. The government proposal of a new telelegislation is expected already at the end of the present month.

12989/9435
CSO: 5500/2578

STET, FIAT FORM TELECOMMUNICATIONS FIRM

Turin MEDIA DUEMILA in Italian No 11, Dec 85 pp 106-107

[Article by r.m.d.: "STET, Fiat Alliance Aims Toward Europe"]

[Text] The marriage between STET [Telephone Finance Corporation] and Fiat in the telecommunications field caught operators and observers unaware. Around the middle of November the struggle for control of Mediobanca developed on the front pages of the newspapers. No hint appeared about an operation started By Mr Agnelli and Mr Prodi, who aimed to shuffle cards in one of the strategic sectors of Italian industry.

However, the wedding between public and private--Italtel and Telettra--was made official. The sudden pickup, after many months of slow motion negotiations, was taken at IRI [Industrial Reconstruction Institute] and Fiat summits; thus, on 13 November, the Board of Directors gave its approval to setting up the new company. Thus, a maxigroup was born with the task of controlling about 70 percent of digital and transmissions technologies in our country.

We must go back to 1982 in order to understand the deep reasons for the change which is destined to also affect the European field, where new alliances are imminent. When the "national pole" was born 3 years ago after the Italtel, Telettra and GTE agreement, a first decisive step was made toward the rationalization of a sector in which only giants can hold out at international levels.

An efficient technological cooperation developed through the "pole" which allowed the building of the first electronic public commutation system. On the commercial level the results were less brilliant while the three companies continued to operate separately.

Nevertheless, since 1982 close talks took shape to verify the concrete possibilities of a more organic alliance. Afterwards, however, these projects were shelved. STET seemed to be more interested in organic alliances with the leaders of the worldwide market, AT&T and IBM. It was a complex strategy which led only to an operational outlet: the IBM-Elsag company for the automated factory.

The year 1985 was going to end without substantial novelties when STET abandoned a tactic of waiting and went on to attack.

What were the reasons? According to the most trustworthy observers there are at least two: GTE Italiana gave over its production to Siemens, which appears again on the Italian market scene. The second is that the Swedish telecommunications multinational, Ericsson, knocked at Fiat's door in order to build up a new company which would be able to join synergically Telettra and Fatme (Italian branch of Ericsson).

At that point, the "Italian pole" fell and quick decisions were needed. Giuliano Graziosi, STET managing director, with Romano Prodi's approval, sped things up and closed the negotiations with IFI [Italian Financial Institute] and Cesare Romiti. Thus, "financial men" became the leaders in the communications field, confirming that in the future this sector will be more and more under the leadership of the big financial enterprises. They are, in fact, the only ones who have the indispensable capital to initiate the take-off of this sector.

Let's examine all details of the operation which will close at the end of 1986 with the birth of a single company.

The marriage of Italtel-Telettra will be accomplished on this basis: 49 percent of shares to STET, 49 percent to Fiat, 2 percent to a bank (perhaps Mediobanca, however, it might be also IMI). The new company will be located in Milan with a corporate capital of 1 billion lire, which could be increased up to 50 billion lire. It will be a financial holding both for control and management.

There is a clear reason for the integration; namely to set up strategies of common utility in the production and marketing of the telephonic and telematic sectors. The company will be engaged especially in public commutation and, principally, in basic telematics, terminals and Pabx electronic plants.

Some details are, however, still dim, even though an initial explanation was given on 6 December, during a meeting of the leaders of this operation at Bocconi University. In particular, it is not yet clear how this corporate union will take place, taking into consideration that the two companies have different weight and dimensions: Italtel has 20,000 people and Telettra 4,600; the invoiced amount of the public enterprises are 1 trillion lire against 403 billion lire of the private company. However, this gap narrows if we look at the profits: 22 billion lire for Italtel, 14 billion lire for Telettra.

One has also to remember that the company, under the leadership of Marisa Bellisario, reached a profit in 1983 after the dismissal of many workers. However, the main problem is still the number of workers that should be thinned out: According to estimates, the total staff should be 13,000 workers in 1989.

However, beyond the different structures of the companies, there is a basic tendency to be complementary in production. In public communications, Italtel now controls 52 percent of the market and 37 percent in the private market. As far as both fixed and herzian hearing transmission is concerned, the two companies can achieve profitable convergences: one by controlling 30 percent and the other 32 percent of the Italian market.

Certainly, the STET choice allows Fiat to penetrate a strategic sector with greater energy by speeding up the productive diversification of the group. On the back of the first Italian pillar a maxigroup is born (at least for the Italian market). This group is bound to emerge and to carry its weight in the collision between the giants which is developing in the second half of the 1980's.

The page is turned with a great reshuffling of cards: 1986 promises to be a year full of sensations. GTE Italiana,in fact, has already expressed its intention to join the new industrial reality, while Olivetti does not at all seem likely to stand aside. At stake are 100,000 billion lire in national plan for telecommunications and the telematics markets are getting richer and richer.

Besides, with the IBM campaign determined to penetrate the European market even in the networks field, new cartels stand out within the EC: The Italian telecommunication pole could further strengthen the already firm ties achieved by Italtel with the German Siemens, the French Cit Alcatel and the British Plessey. There is talk about a German-Italian axis; however, the challenge is still open and only in the coming months will STET and Fiat strategic objectives become apparent. These two are destined to pursue new alliances.

A forecast of events taking shape in the 1990's was given during a recent interview with Sergio Vacca, the director of Iefe, the Research Institute of Bocconi University. The agreement between Fiat and STET is the first piece of a puzzle that will deeply change the telecommunications world. It is an indispensable agreement since the telecommunications sector needs very large investments. For developing a system such as UT/10 [the plants planned by Italtel-Telettra-GTE) 1,500-2,000 billion lire are required: these investments are justified only by large-scale economies. The agreement between STET and Fiat operates in this direction. However, Mr Vacca advises that one has "to take into account also Siemen's Germans and the Americans of GTE, who signed important agreements."

Now Italy (especially STET) seem to be determined to look for a European partner. It is a correct choice, in principle, even though some critics point out that it means surrendering to more favorable agreements with AT&T regarding very advanced technologies. Only time will tell if the right path has been taken. Up to now in an atmosphere of general approval, only one disagreement is recorded, that of trade unions, perhaps worried about its effect on labor, a result of the productivity integration with the rationalization of the tasks between the two companies. In particular, according to FIOM metal-workers, "the public industry must not abdicate in favor of the private industry without a statement of reasons and compensation." Thus, one wonders if a partner of limited dimension such as Telettra would allow such an improvement in quality which is indispensable for STET for its manufacturing section.

On the contrary, in the industrial world there are great expectations for the designation of the new company's leadership. Marisa Bellisario is Italtel's leader, while President Alessandro Nezzo and managing director Raffaele Palieri lead Telettra. The next board of directors will have seven members; three of them selected by STET, three by Fiat and one by the minor partner (either IMI or Mediobanca). Obviously, the president will be elected by general agreement.

Beyond the developments inside the company that are still to be seen, it can be confirmed that the most important obstacles have been overcome in order to accept the international telecommunications challenge with courage. It is a huge business in which Italy can play its role. STET and Fiat seem to possess "know-how" and resources in order to be at the top.

8601/8309
CSO: 5500/2622

FOUNDATION HOSTS CONVENTION ON FIBER OPTICS

Milan ELETTRONICA OGGI in Italian No 13, Jan 86 pp 96-97

[Article by L. Fusi: "International Convention on Fiber Optics"]

[Excerpts] The first applications and research in the field of fiber optics date from 1970. Since that time this new information transmission system has surpassed the copper cables system for various reasons. Recently, the Cini foundation--under the sponsorship of the Council of Ministers--introduced the "state of the art" in research and applications during an international convention in Venice at which local authorities and government representatives were present. More than 1,200 researchers and technicians of specialized firms took part in the convention, and for the occasion an exhibition was prepared of the products of some leading Italian firms specializing in this field.

The situation and further applications in Italy are particularly interesting. The role of the CSELT research center of Turin is so important concerning national projects for optical fibers installations that it can be considered as the leader in the sector.

Some labs have already been installed. For example, at the Milan Fair an optics island was recently tested and utilized. This project was developed by SIP together with CSELT, Italtel, Pirelli, and Sirti, in cooperation with RAI.

Another operating optics island in Rome connects several telephone centers for a length of 16 km. Also carried out by ASST, the state telephone service company, is the Padua-Mestre connection with a 12 multimode fiber cable 34 km long.

Recently, a 12 fiber cable 4.7 km long was installed in the bay of Venice to connect the Lido with the S. Salvador center.

This application was presented at the international conference as a practical demonstration of existing capabilities. Such a telematic application is able to transmit voice, video images, and at the same time access video libraries.

Also at an advanced stage are the Roma Eur projects for fully digital signal transmissions through this means, and, for connecting the capital with other European cities. Meanwhile, ASST is planning the following programs: the development of an international, European network, 6,500 km long with a monomode 12 fiber cable; the two-cable Milan-Turin network, one along the railroad and the other along the highway; and the Pisa-Livorno and Catania-Palermo lines. The state of the art in production is of 8 Gbit/s and regeneration to 253 km.

Just to have an idea of the applications it is important to consider that FOS, South Optical Fibers, a joint venture with Pirelli and Sirti, will produce 20,000 km of fiber optics before the end of the year.

Another interesting prospect for 1987, which is not directly linked with Italy, is the installation of a submarine cable to connect Europe and the United States. In the beginning we stated that fiber optics are becoming more important to broadcasting units. Moreover, artificial satellite for telecommunications will be concerned with these advances. In fact, optical fibers will partially replace them, especially in high density connection areas.

As seen earlier, some applications involve the consumer directly. It is certain that broadcasting quality will improve. At present, fiber optics connect one center with another; therefore, they cannot yet reach household units, although this is just a short step away. The considerable benefits that may be drawn and that justify the objectives are the services. In coming years, it will be possible to transmit and receive-video images by telephone, thereby leading to an interactive videophone. It will also be possible to participate in video conferences by telephone, to access video libraries, and to use one or more modes simultaneously. The real difference between fiber optics and cables is in the execution of these applications.

Some forecasts indicate that fiber optics will affect the video recorder market. In fact, it is speculated that, thanks to a low cost/information ratio, it will be more convenient to connect to video banks rather than buy video recorders and recorded programs.

8609/8309
CSO: 5500/2621

SIP TO IMPLEMENT CONFERENCE-CALL CAPABILITY

Rome L'UNITA in Italian 22 Jan 86 p 9

[Article by Daniele Martini]

[Text] Rome--Telephone conversations safe from eavesdropping ears and eyes. A simultaneous hookup of 16 conference rooms scattered around most of Italy enabling a long-distance megaconference among the participants. The transmission of data at a speed six times faster than today's, which is already high. Automatic debiting of the charges to the number called. From now on, it will be possible to do all these things. SIP [Italian Telephone Company] programs for 1986 call for the implementation of these services.

These are the latest advances in a revolution of the telephonic-facilities communications sector, that began in 1968 and has progressed without fanfare, but steadily, over the past few years. Closed user-group, teleaudio conferencing, green number, and 64 Kbits per second are the terms being used by those involved in this Nth technological mini-revolution, to designate the projects which very soon will play a part in the work of banks and offices, newspapers and agencies, industries and universities. The following explanation is offered for a better understanding of what is happening.

Starting with the closed user-group, the term rather adequately suggests its content; namely, the reserving of channels for voice or data transmission interconnections among an "X" number of subscribers. How many times does the need arise to quickly communicate, possibly in real time, information, news items, or figures, which, however, should preferably not be leaked to anyone other than the intended recipient of the call? And how many times do business firms or institutions or banks decline to use the telephonic cables because no one can absolutely guarantee the desired privacy via those facilities?

From now on, the system the SIP has designed should guarantee this communications security. The engineers assure us that the structure that has been adopted is "bombproof." In practice, "unwanted" subscribers are iron-rigidly excluded from the linkup; that is, a kind of "private" network is established using channels and facilities provided by the public services network. Let us assume a big firm subscribes to this new service in order to have a secure and efficient communications link with its subsidiaries spread throughout Italy. What are the advantages of this service to this firm? For one thing, it pays for a service but is not required to undertake on its own either the investment cost of designing and building the facilities or the ongoing costs of operating them. These are furnished to the firm, in exchange for the payment of a standard fee and of the tariffed charges for the service, of course.

Closed user-group service is configured in such a way that--to remain within the example of the firm with subsidiaries, or of the parent company with various and autonomous affiliated companies--each entity within the group pays according to the use it actually makes of the network. All potential "intruders" remain outside the closed-group, unless it is decided within the group to open it for the occasion. And this can also be done.

Teleaudio conferencing. This service has been in existence, at least in part, for some time. But what is new is that, although until now it has been necessary to lease as many lines as there were locations to be called, in order to have the service, now, with solutions provided by new technologies, only a single "latest-generation" line is used. Another innovation is that, although formerly only two locations could be interconnected at any one time, now up to 16 locations can be interconnected simultaneously. And the voice communication facility can be equipped with other add-on apparatus. For example: Is there need to transmit a document via facsimile? Simply interrupt the voice conversation for 60 seconds while the copy is being transmitted. Or must something be handwritten or drawn to better illustrate what is being said? Anything traced by hand on a board in any one of the 16 locations will be seen reproduced on the video screens in all the other locations.

The term 64 Kbits per second. Here, we are in the midst of language for the initiated. When data are transmitted over a distance, each character is represented by a sequence of bits; for example, eight bits per character. The term 64 Kbits per second means that a number of characters equivalent to 64,000 bits can be transmitted in the space of 1 second; using a very approximate calculation this would be equivalent to about 8,000 characters. If each word contains, on average, 8 characters, approximately 1,000 words can be transmitted during that 1 second. This speed is much faster than present ones. If data are transmitted on telephone lines of the older type, and using the older systems, it is barely possible, and only with considerable difficulty, to attain a speed of 4,800 bits per second. Obviously, this type of service interests mainly those who transmit large quantities of data, figures and information daily. Let us take, for example, the long-distance transmission of the pages of a newspaper. Up to now, 12 basic telephone lines have been used. Now, the two locations can be linked over a single, faster, new-technology line that passes through a switching exchange.

The forward step in this case, as in the others discussed here, has been made possible by the voice-data network, the network that parallels the usual telephone network and is linked to it, but that is served by exchanges of a completely new, electronic type. As of now, 80 Italian cities are being served and 4 new exchanges are in place, in Milan, Turin, Rome and Naples. SIP engineers say that a fifth one is needed in Bologna, but so far there has been no authorization for it; instead, there is the possibility of its becoming an issue for the opening of a polemic.

The subscribers to this new network number around 1,500, still very few as compared with the 13 million subscribers to the "normal" network. But of these 13 million, 3 million are in the "business" category, and it is in this category that SIP plans to attract new subscribers to the voice-data network--in part, because the "traditional model telephone" and this new network are not exactly strangers to each other. A rather interesting example is the integration between the two systems: The green number. For once, ecology has nothing whatever to do with "green"; this time, the color is linked instead to the green traffic light, the green light meaning, in this case, "Talk." When the subscriber uses a certain prefix before a called number, the call is automatically charged to the answering party. In practice, this is of use to a firm wishing to have its customers call it by telephone at virtually no charge to them, except the cost of a token. Why this accommodation? For internal reasons, but also for competitive reasons. For instance, a customer will prefer to place an order with a firm having this service, and therefore at no cost to the customer for the telephoning of his order, rather than with a firm that does not have this system. In the United States, where (as usual) the system has been in operation for almost 20 years, it appears that this is precisely the way it works. In 1986, the "green number" will make its debut in Italy. Will it be well received?

9238
CSO: 5500/2572

TELEFONICA, PACIFIC TELESIS TO DEVELOP R & D CENTER

Madrid YA in Spanish 19 Jan 86 p 24

[Text] Telefonica [Telephone Company of Spain] and the U.S. multinational, Pacific Telesis, have signed an agreement for the planning, design, and construction of a research and development center in the outskirts of Madrid. The facility, which will have a usable space of 20,600 square meters, will employ about 600 specialists. This will mean doubling Telefonica's present research staff.

The investments required for this project come to a maximum of 6.4 billion pesetas. This amount has been set as the investment ceiling. It will be further itemized in the bidding to be conducted for the construction and supply of equipment and materials. The principal items into which this project can be subdivided are: civil engineering, including special facilities: about 2.7 billion pesetas; equipment: 2.4 billion; and technical assistance, engineering costs, and project management: 1.3 billion pesetas.

Pacific Telesis Involved

Approximately half of the money will be spent in Spain, with the items for staff and technical assistance to be fundamentally payable in dollars. Consequently, the project must be approved by the general division of foreign transactions.

Pacific Telesis will serve as prime contractor for a "turnkey" contract. It has pledged to deliver the center within the period of 28 months. While it will be responsible for supervising and conducting the public bidding, the final decision on awarding the bids will be made by Telefonica. The agreement, in addition to the project management and advice on the purchase of suitable research instruments, will bring a large team of American engineers from Bellcore (Bell Communications Research) labs, who will remain in Spain during the laboratory's first years of operation.

The contract also calls for the collaboration of Pacific Telesis in the selection of international engineers and telecommunications experts, who will be hired in their respective countries and brought to Madrid so that they may coordinate the various research staffs.

The lab will incorporate intelligent building technology, including energy and safety control systems, and data communications links within the building. The facility will be able to house the chips design center that Telefonica is thinking of installing.

With an annual operating budget of about 5 billion pesetas, the new labs will have modern facilities enabling them to conduct research and development activities in the areas of telecommunications equipment, systems and services, and basic technologies. The design of integrated circuits for specific telecommunications applications, the study of voice and image signals, human factors, artificial intelligence, and operational systems are some of the fields in which this laboratory will work.

Coordination with Other Organizations

The activities of this new research and development center will have to be coordinated to the greatest extent possible with official and research support structures, such as the CSIC [Higher Council for Scientific Research, universities, CDTI, and the advisory commission, as well as with Spain's electronics industry.

The Pacific Telesis Group is one of the seven major companies which emerged from the breakup of AT&T. It provides telecommunications services in California--the most highly developed state in the United States--and Nevada. The company is considered a leader in vanguard applications for telecommunications and information technology. Pacific Telesis has approximately 80,000 employees, and sales of $8 billion. Last year its profits were close to $900 million.

7679
CSO: 5500/2591

NEW SPANISH TELEVISION STATUTE PROPOSED

Madrid ABC in Spanish 28 Jan 86 p 20

[Text] Yesterday the president of the Socialist Parliamentary Group, Eduardo Martin Toval, announced that the bill reforming the statute for RTVE [Spanish Radio and Television] will be sent to the rest of the parliamentary groups today, so that it may be formally presented to the Congress of Deputies within the coming week. Martin Toval also said that the law regulating private television broadcasting will be passed during this legislative session.

Other sources said it is even possible that at next Friday's Council of Ministers' session, the government may give its approval to the bill prepared by the ministry of the presidency. In fact, Javier Solana, the government spokesman and minister of culture, has said on a number of occasions in recent weeks that the socialist executive intends to approve the private television bill before the end of January, so that it may then be discussed in the Congress of Deputies and the Senate and be finally approved during the present legislative session.

During a dinner meeting with journalists, Martin Toval said he supports adopting the German system, rather than the Italian, "which has few channels and is expensive." He said that in his view, there must be two limitations on private television broadcasting: it must not become a television system run by the banks, and operating concessions must be awarded to stations which guarantee that they will produce a minimum of 50 percent of their broadcast material themselves.

Nonetheless, Martin Toval stated that the bill does not stipulate the number of channels that will be allowed, and that these concessions will be handled administratively by the ministry of the presidency or by the general division of social communications media.

In the opinion of the PSOE [Spanish Socialist Workers Party] spokesperson in congress, "the fundamental point about private television broadcasting is that there are more applicants than there are possible channels available." He added that it will cost at least 15 billion pesetas for the startup expenses for one channel, in order to avoid "major frustration hindering pluralism in Spain's broadcasting system."

At his meeting with the press, the socialist parliamentarian again affirmed that the dismissal of Jose Maria Calvino "is not pending at this time," and that the start in effect of the new RTVE statute does not mean that a new director of this agency will have to be appointed. This new statute, whose final version will be drafted today, contains the following new provisions:

a. The government will propose a candidate for director general of this public agency, who will then have to be approved by two-thirds of the Congress of Deputies in a first round vote, and by a simple majority in the next round. To remove this director, the government will have to justify its decision.

b. The new Spanish Radio-Television Council will consist of nine members (there are now 12). Of these members, six will be appointed on a proportional basis, according to the representation of each parliamentary group.

c. The parliamentary control commission for RTVE in congress will consist of 12 deputies (there are now 36) and it will have greater authority.

7679
CSO: 5500/2591

NATIONWIDE COMPUTER DATA NET SEEN READY BY 1988

Stockholm DAGENS NYHETER in Swedish 28 Jan 86 p 7

> [Text] Every telephone area code in Sweden will have a computerized exchange for domestic and international computer communication over the telephone. A special network system, Infonet, with local service in some 25 countries, will be connected to the computerized exchanges.

This network, which will connect 70 countries, is to be put into operation on 1 February.

"It is the goal of the National Telecommunications Administration that every telephone area code will have its own computerized exchange within 2 to 3 years," says Bo Adolfsson, marketing manager at the National Telecommunications Administration.

Many In Line

The computerized exchange is, simply expressed, a computer guided telephone exchange for the "packaging" and quick transfer of large amounts of data between computers. For a long time Stockholm was alone with such a computerized exchange, but now Gothenburg and Malmo each have one.

Next in line to receive a local computerized exchange are Karlstad, Norrkoping, Sundsvall and Vaxjo. The rate of expansion is one exchange per month and the budget comes to about 200 million kronor over the next two years.

The feature of Infonet is that it is only a so-called carrier service. This means that the network "carries" information directly from the sender to the receiver without any so-called intermediate storage.

The network will certainly be operative, beginning 1 February but will not be in service at full capacity until midyear. Then, the network for Datapak, Datex and Infonet will be interconnected.

"Infonet has precisely those services the National Telecommunications Administration lacked earlier," says Bo Adolfsson. In Sweden, the National Telecommunications Administration will administer connections to customers. It will be possible to connect telexes, computers and computer terminals to the network via set local lines or connections called in. Through Infonet it is estimated that Swedish firms will receive simpler and more secure computer communication, for example, between head offices and subsidiaries abroad.

"Even though the network is new in Sweden, it has been in use internationally for 10 years and is highly reliable," says Ake Ljung, managing director of Interpak. It is monitored 24 hours a day year around and access is close to 99.7 percent, which means that the network is in operation almost continuously. Computer traffic goes via cable or satellite.

Cheaper Than Telephone

The network system is perhaps mainly suitable for large export firms. "It is from them one expects the large volumes," says Ake Ljung.

Infonet can be interesting for medium-size and small firms as well. There is actually a special system to system message which can be much cheaper to use than regular telephone calls. For example, in one minute it is possible to send at least ten times the amount of text that one can read for one third of the ordinary telephone charge.

The investment in Infonet was made with DATEMA Information and CSC, Computer Sciences Corporation, from the United States. Through the subsidiary Teleinvest, the National Telecommunications Administration owns 51 percent of the firm Interpak, which is responsible for Infonet in Scandinavia. Interpak, which has stock capital of 8 million kronor, is estimated by Interpak's managing director, Ake Ljung, to receive a turnover of about 100 million kronor within 5 years.

12562/12624
CSO: 5500/2577

END

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11 APRIL 1986

Worldwide Report

TELECOMMUNICATIONS POLICY, RESEARCH, AND DEVELOPMENT

FBIS FOREIGN BROADCAST INFORMATION SERVICE

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11 April 1986

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TELECOMMUNICATIONS POLICY, RESEARCH AND DEVELOPMENT

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HONG KONG

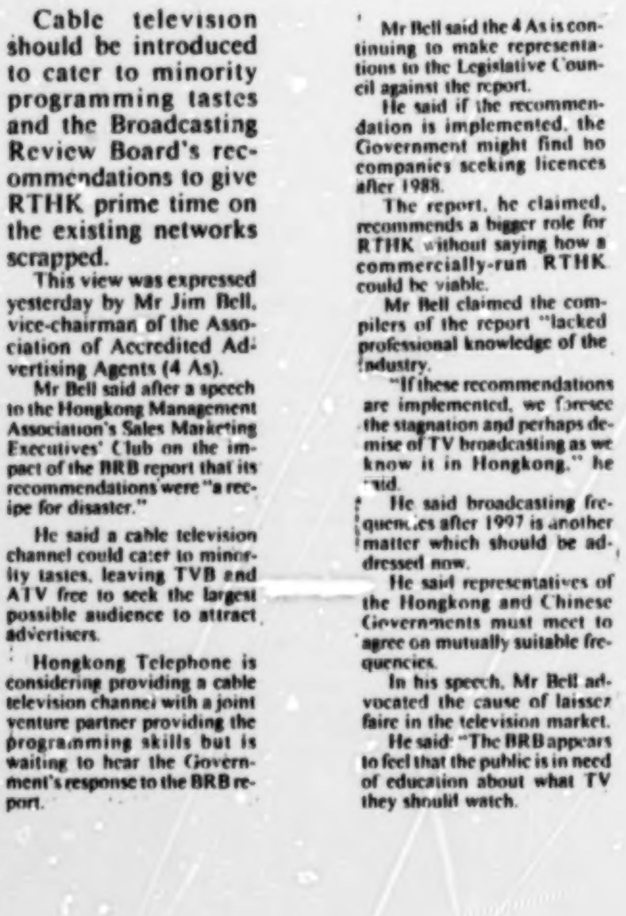
BROADCASTING REVIEW BOARD PROPOSALS MEET CRITICISM

Advertisers' Views

Hong Kong SOUTH CHINA MORNING POST in English 19 Feb 86 Business News p 3

[Article by Peter Robinson]

[Excerpts]



Cable television should be introduced to cater to minority programming tastes and the Broadcasting Review Board's recommendations to give RTHK prime time on the existing networks scrapped.

This view was expressed yesterday by Mr Jim Bell, vice-chairman of the Association of Accredited Advertising Agents (4 As).

Mr Bell said after a speech to the Hongkong Management Association's Sales Marketing Executives' Club on the impact of the BRB report that its recommendations were "a recipe for disaster."

He said a cable television channel could cater to minority tastes, leaving TVB and ATV free to seek the largest possible audience to attract advertisers.

Hongkong Telephone is considering providing a cable television channel with a joint venture partner providing the programming skills but is waiting to hear the Government's response to the BRB report.

Mr Bell said the 4 As is continuing to make representations to the Legislative Council against the report.

He said if the recommendation is implemented, the Government might find no companies seeking licences after 1988.

The report, he claimed, recommends a bigger role for RTHK without saying how a commercially-run RTHK could be viable.

Mr Bell claimed the compilers of the report "lacked professional knowledge of the industry.

"If these recommendations are implemented, we foresee the stagnation and perhaps demise of TV broadcasting as we know it in Hongkong," he said.

He said broadcasting frequencies after 1997 is another matter which should be addressed now.

He said representatives of the Hongkong and Chinese Governments must meet to agree on mutually suitable frequencies.

In his speech, Mr Bell advocated the cause of laissez faire in the television market.

He said: "The BRB appears to feel that the public is in need of education about what TV they should watch.

"This is a dangerous and outrageous statement for a Government-appointed committee to make, especially in the context of Hongkong, where freedom of speech and freedom of choice are fundamental to the territory's future."

He said a 1983 study of the television audience by the Census and Statistics Department showed that only 18 per cent said they wanted to enrich their knowledge by watching television.

Sixty-one per cent said they watched television to pass their spare time and 50 per cent said they watched for entertainment.

Mr Bell said Hongkong must be the only place in the world that provides two channels catering to a population that accounts for only three per cent of the total.

Other observers have pointed out, however, that the majority of viewers of the English stations are bilingual.

Mr Bell did not appear to think the companies should plough back their profits from the Chinese channels into making more programmes for the English channels.

Giving RTHK 20 hours per month of prime time from each Chinese channel would cost $40 million to $100 million a year, he claimed.

It would also make it difficult for ATV and TVB to ensure the continuity in programming which advertisers seek.

He said reducing the licensing period from 15 to eight years will make companies shy off applying for licences since high capital investment in technology requires long-term payback.

A reduction in franchise terms could also lead to a reluctance to invest, lowering programme standards.

The BRB report has recommended two separate bodies to monitor broadcasting but Mr Bell said the Television and Entertainment Licensing Authority has successfully carried out this function in the past.

He said over the past 18 months the 4 As has spent over $150,000 on improving voluntary codes of advertising practices.

Asia TV's Position

Hong Kong HONGKONG STANDARD in English 26 Feb 86 p 2

[Excerpts]

TOP executives of Asia Television yesterday rejected all major recommendations of the Broadcasting Review Board, saying that the status quo should be maintained.

The seven-member team, led by the chairman of ATV, Mr Deacon Chiu, met members of the Legislative Council ad hoc group on the BRB report yesterday.

In their submission, Mr Chiu said the recommendation that prime-time slots of the two commercial television stations be allocated for broadcasting programmes of Radio Television Hong Kong (RTHK) would have "a considerable effect on the viewing pattern (of viewers) for the rest of the evening."

"And if the public broadcasting service is to slot a particular weak programme on one channel, the financial loss for that channel would be drastic," he added.

Mr Chiu also said the alternative suggestion — that on weekends, airtime on both Chinese channels be allocated to RTHK — is "unworkable."

The team also rejected the recommendation that two separate bodies be set up to take over the administration and jurisdiction power of the present Commissioner for Television and Entertainment Licensing.

"The present system works well, and we doubt if the proposed Broadcasting Authority and Radio Television Complaints Tribunal will work," said Mr Chiu.

Meanwhile, 44 social organisations jointly issued a press release to protest against the suggestions of the BRB.

They said the recommendations, if implemented, would infringe on the people's rights.

The freedom to choose programmes will be infringed on if prime airtime is allocated solely to RTHK, they explained.

"The associations urge the Government to give careful consideration to the recommendations of the BRB so that the people's way of life may not be undesirably affected and their rights jeopardised," the press release stated.

/9317
CSO: 5540/048

HONG KONG

SATELLITE TV RECEPTION HITTING GOVERNMENT SNAGS

Hong Kong HONGKONG STANDARD in English 18 Feb 86 p 1

[Article by Shirley Hui]

[Text] SEVERAL local hotels have gone ahead with plans to bring international television to their guests via satellite.

If successful, Hongkong people could watch foreign programmes free.

Present telecommunication regulations allow an individual to pick up any station he wants — but he can only use the satellite dish for his TV only.

A person who picks up signals with a giant dish and distributes it to others would be violating the law.

Dishes which can pick up satellite programmes have been installed by the newly-opened Kowloon Hotel on the roof of its sister hotel, the Peninsula.

Sources told *The Standard* that other hotels have also installed dishes while some were in the process of doing so. This, however, could not be confirmed.

A government spokesman told *The Standard* yesterday that an exclusive licence has been granted to Cable and Wireless for the transmission of television programmes to and from Hongkong "except when the Governor-in-Council directs otherwise".

The General Manager of the Kowloon Hotel, Mr Frank Kam, said their legal advisers were studying the matter and would discuss it with the government soon.

"The world is getting smaller. Our service is planned to meet the needs of travelling businessmen who want to know what is happening around the world as soon as possible," he said.

But the government had another view: "The use of a satellite dish for the reception of satellite television signals for distribution to more than one television receiver — whether it is for commerical resale or otherwise — is considered to be within the scope of the exclusive services provided by Cable and Wireless (Hongkong) Limited."

The Post Office therefore, would not grant any satellite signal distribution licence to companies and organisations other than Cable and Wireless unless so directed by the Governor-in-Council.

Horgkong also comes under the International Telecommunication Satellite Organisation (INTELSAT) Agreement, of which Britain is a signatory. Intelsat prohibits such distribution.

"Under the agreement, all earth stations and other satellite dish aerials accessing the system must be approved in advance by Intelsat," the spokesman said.

The Sales Administration Manager of Cable and Wireless, Mr Mark Kwong-jim, said local people could have access to the satellite — on the condition that they pay $85 per minute for using their facilities.

But clients would have to find their own facilities for a microwave link from C&W's New Mercury House's international television centre to their sets.

/9317
CSO: 5540/048

JAPAN

BRIEFS

LOAN TO JORDAN--Tokyo, March 7 KYODO--Japan will extend to Jordan a soft-term loan of up to 578 million yen to help finance a telephone network expansion project, the Foreign Ministry said Friday. The ODA (Official Development Assistance) loan, to be made available from the Overseas Economic Cooperation Fund to the Jordanian Government, will carry an annual interest rate of 5.5 percent, and is repayable in 25 years, including a seven-year grace period. With the new credit, the accumulated total of ODA loans extended to Jordan since 1974 comes to 45,785 million yen, it said. Notes for the latest loan were exchanged between the two governments in Amman Thursday, the ministry said. [Text] [Tokyo KYODO in English 0648 GMT 7 Mar 86 OW] /6091

CSO: 5560/123

NEW TYPE MICROWAVE FM OSCILLATOR

Nanjing NANJING GONGXUEYUAN XUEBAO [JOURNAL OF NANJING INSTITUTE OF TECHNOLOGY] in Chinese Vol 16 No 1, 20 Jan 86 pp 61-70

[Article by Lin Fuhua [2651 4395 5478] and Zhuang Kunjie [8369 2492 2638] of the Department of Radio Engineering, Nanjing Institute of Technology]

[Summary] A new type of oscillator using multilink feedback loop is presented. High stability of frequency can be obtained, because the total time delay of the oscillator loop is larger, and it is slightly influenced by the noise or the parameter drift of the transistor either of which being the chief factor affecting the short-term stability. In order to achieve linear FM, a linear voltage controlled phase shifter must be involved in the loop. The greater the shift of the VCPS, the greater is the frequency shift of the VCO. An engineering design method of the linear FM oscillators is given. A variety of FM integrated microwave sources has been produced and applied to the microwave communication systems and broadcasting satellite receivers. [Paper received 21 December 1984.)

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/9365
CSO: 5500/4149

XIAN ASTRONAUTICAL CENTER TRACKS SATELLITE

OW230224 Beijing Domestic Service in Mandarin 2335 GMT 20 Feb 86

[From the "People's Soldiers" program: report entitled "We Have the Courage To Hang a Pearl in Space" by station reporter Zhou Yuchun and station correspondents Sun Lei and Jiang Weisen from the Xian Astronautical Measuring and Control Center]

[Excerpts] [Unidentified reporter] Listeners, I am reporting to you from the command hall of the Xian Astronautical Measuring and Control Center on the positioning of China's telecommunications and broadcasting satellite in near-synchronous orbit. The hall is located at the center's computing and command building [words indistinct] where there are dozens of control rooms with some 100 pieces of modern equipment for measuring, controlling, computing, analyzing, and telecommunications. Inside the spacious and brightly illuminated hall are more than 30 screens and automatic recording equipment.

Today is 3 February. The posts in the hall are now fully manned by command personnel, experts, scientists, and technicians who are in charge of this measuring and controlling mission. Constantly displayed on the screens are color pictures and large amounts of measuring data.

[Reporter] Watching the positioning of the satellite into near-synchronous orbit at the center today are Li Peng, member of the Political Bureau and Secretariat of the CPC Central Committee and vice premier of the State Council, and leading comrades of the Ministry of Astronautics Industry, the State Scientific and Technological Commission, and Shaanxi Province.

Listeners, the satellite is now operating [words indisctinct] in the tradient orbit [po du gui dao], or the big elliptical orbit. At this stage, the measuring and control systems constantly (?monitor and) control the satellite's position, orbit, and equipment functions. We can see now that the center has been receiving a large quantity of data and information sent back from China's ocean-going survey fleets and tracking stations all over the country, and this data is constantly processed by computers operated by experts and scientists here.

Listeners, it is now exactly 1000 [0200 GMT]. The satellite apogee engine will be ignited in a few minutes. After ignition, the satellite will be pushed from its equatorial orbit to the near-synchronous orbit. During these few minutes, (Jin Lei), a staff member of the Xian Astronautics Measuring and Control Center, will give us a brief description of the center.

[Jin Lei] Currently, our center not only has precision tracking and surveying, remote measuring, control and data processing systems, but it also has a complete astronautical measuring and control system with time-synchronized screens, data-transmitters, command [words indistinct], computers [words indistinct] and weather forecasting systems. We are glad to tell you listeners that our center now has some 1,000 experts, scientists, and technicians. The many measuring and control stations in various parts of the country have formed a preliminary measuring and control network centered on data processing. In terms of the degree of automation, the entire measuring and control process has reached advanced world elvels. After the satellite separated from the carrier rocket, our center has been constantly tracking, measuring, and computing its position. Before reaching its fourth apogee--in other words, before it is ignited in space--our center has been constantly monitoring the operation of the satellite's equipment and made precision adjustments to ensure that absolutely nothing will go wrong when it is ignited. We can see from the screens that the satellite is in its best position to be ignited in space.

[Reporter] Listeners, the ignition in space is a success! The ignition in space is a success! The satellite engine was ignited 36,000 km--I repeat, 36,000 km--above the earth. We can now see a red line appearing on the automatic recording equipment. This red line, which continues to extend along the satellite's precomputed theoretical orbit, is the orbit of the satellite after being ignited.

[Unidentified female report] The satellite has now entered near-synchronous orbit from its gradient orbit above the equator at 141 degrees east longitude. This shows that our country's telecommunications and broadcasting satellite has been successfully positioned at a place above the equator. Its orbit is almost (?synchronous) with the equator.

[Unidentified male reporter] Vice Premier Li Peng and leading comrades of departments concerned watching today's ignition in space repeatedly congratulated the controllers. The vice premier stood up with delight from his seat and made a heart-warming speech.

[Begin Li's recorded remarks] Comrades: The satellite has now entered the near-synchronous orbit. This is a significant victory. [Sentence indistinct] I wish to congratulate you for your success and your hard work. [End Li's recorded speech] [applause]

[Unidentified reporter] Listeners: With me now at the command room of the center is Comrade (Qian Zhongsheng) who is in charge of the ignition of the satellite in space. Comrade (Qian), the ignition of the satellite in space was well performed. Can you tell our listeners what did you do to accomplish the mission?

[Being (Qian's) recorded remarks] Our guidelines for accomplishing the mission are to ensure safety and reliability so that absolutely noting can go wrong. These guidelines were laid down by the late Premier Zhou Enlai. To attain this goal, we have done three things: first, we have meticulously maintained all our equipment to make sure that they are always in good working condition. Our center has hundreds of thousands of component parts, and we have made sure that none of them will break down during the test. Second, we have practiced our operation through repeated drills. The test involved thousands upon thousands of movements, and we have made sure that no one movement will go wrong. Third, we have urged the technicians to recall and anticipate--recalling what sort of problems they had discovered in the process of preparing the test, and to anticipate what might go wrong during the text. To accomplish the mission, our comrades have displayed the self-sacrificing spirit. Some have postponed their marriage. Some have given up the opportunity for pursuing more advanced studies. Even those who are sick insisted on working although they have to receive medical injections and take medication. Many comrades have worked overtime, and they were absorbed in their work that they forgot to eat and sleep. We all are very happy for the successful ignition in space today because our toil and sweat have been rewarded. Our next project will be fix-point control. All our comrades in the center are determined to work hard to position the satellite at a fixed spot 36,000 km above the equator. [End (Qian's) recording]

/6662
CSO: 5500/4148

TELECOMMUNICATIONS SATELLITE SUCCESSFULLY POSITIONED IN ORBIT

HK210203 Beijing ZHONGGUO XINWEN SHE in Chinese 0959 GMT 20 Feb 86

[Text] Beijing, 20 Feb (ZHONGGUO XINWEN SHE)--Today, at 1700, the telecommunications and broadcasting satellite launched by China at its Xichang Satellite Launching Center in Sichuan on 1 February, was placed accurately in its permanent orbit above the equator at longitude 103 degrees east.

It has been reported from the Weinan Control Center that the instruments and equipment aboard the satellite are working normally, that it has begun beaming telecommunications, broadcasting and television signals, and that it will soon be put into actual use.

This is the second synchronous telecommunications satelllite to be launched by China with a "Long March 3" three-stage rocket, over the past 2 years. The satellite launched on 8 April, 1984, was placed in its permanent orbit above the equator at longitude 125 degrees east. This satellite is now relaying telecommunications, broadcasting, and television signals. It is said that the rockets used liquid hydrogen and liquid oxygen as propellant, on both occasions.

Today, the CPC Central Committee, the State Council, and the Central Military Commission sent a congratulatory telegram saying that the successful positioning of the second telecommunciations satellite, indicates that China has thoroughly mastered the technology required for the production, launching, and tracking of carrier rockets; that China's satellite communications has moved from the experimental into the application stage; and that there has been new progress in aerospace technology and electronics.

/6662
CSO: 5500/4148

PEOPLE'S REPUBLIC OF CHINA

CHINA'S SATELLITE TRACKING, CONTROL IMPROVED

OW071126 Beijing XINHUA in English 0745 GMT 7 Mar 86

[Text] Beijing, 7 Mar (XINHUA)--The positioning maintenance precision of China's second telecommunications and broadcasting satellite is six times that of the first, satellite expert Xia Mingzhi said here Thursday.

"This marks fresh progress in tracking and control of the earth-synchronous satellite," said Xia, who is in charge of launching.

The second satellite was launched 1 February and placed in its permanent orbit above the earth's equator February 20. The first was launched 8 April, 1984.

Xia said that Chinese scientists had also improved considerably their ability to track and control the second satellite's orbit, altitude and rotating speed.

Moreover, the second satellite's drift angle is much smaller than the first, he pointed out.

This means that reliability and automation of the new satellite's tracking and control system are performing better.

Via the new satellite, all parts of the country can receive the China central television station programs with a six-meter antenna, compared with a 12-meter one that was necessary to receive programs via the first.

Since 1970, Chinese scientists have completed tracking and control of 18 satellites.

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CSO: 5500/4147

FUJIAN BUILDS TWO MAJOR TELECOMMUNICATIONS CIRCUITS

HK110843 Beijing ZHONGGUO XINWEN SHE in Chinese 0917 GMT 7 Mar 86

[Text] Beijing, 7 Mar (ZHONGGUO XINWEN SHE)--According to a JINGJI CANKAO report, the Post and Telecommunications Administrative Bureau in Fujian Province has begun building two major telecommunication circuits in the province one with transmission through electric and optical-fiber cables and the other through digital microwaves. When the two major telecommunications circuits are completed, 70 percent of the province's long-distance calls will be automatic or semiautomatic and a number of cities will be able to use automatic dialing to make international calls.

The two major telecommunications circuits are key projects for the Fujian Provincial Telecommunications Department in the Seventh 5-Year Plan. They include replacing the open-air telephone lines from Yingtan to Xiamen with an optical-fiber cable which, together with the completed electric cable between Fuzhou and Xiamen, will form a large circuit; transforming the former analogue microwave trunk line between Fuzhou, Xiamen, and Zhangzhou into a digital microwave trunk line which, together with the digital microwave trunk line to be built between Nanping and Jianping, will form a digital microwave circuit.

The project to transform the trunk line between Fuzhou, Xiamen, and Zhangzhou into a digital microwave trunk line is now under way and the Sanmin, Yongan, and Zhangping stations along the Nanping-Zhangping microwave trunk line are under construction.

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CSO: 5500/4148

PEOPLE'S REPUBLIC OF CHINA

XIZANG'S FIRST STAGE OF LHASA SATELLITE GROUND STATION COMPLETED

HK120701 Lhasa Xizang Regional Service in Mandarin 1130 GMT 7 Mar 86

[Text] The first stage of the national communications satellite ground station project in Lhasa has been completed. On 5 March, the satellite ground station started fully automatic and semi-automatic telephone services to Beijing.

Lhasa is now included in China's national satellite communications network. Now, people can call their Beijing counterparts via telephone by telling the telephone service counter in Lhasa City Telecommunication Bureau, the telephone number of their Beijing counterparts. Then, they can talk with their counterparts within a short time.

The satellite ground station in Lhasa is one of the three stations in the region assigned by the CPC Central Committee and the State Council. Since its beginning, the project has atrracted the close attention of the CPC Central Committee and the State Council. The leadership of the Ministry of Posts and Telecommunications called the region several times and asked about the progress of the project. In addition, they supported the project in terms of manpower, material and financial resources, as well as technological force. Therefore, the progress of the project was guaranteed.

The leadership of the Regional CPC Committee and People's Government also attached great importance to the project. The construction team of No 2 Xian Engineering Company of the No 1 Research Institute under the Ministry of Posts and Telecommunications put stress on the quality of the project and made contributions for putting the station into operation at an earlier time.

Following its completion, the satellite ground station will play an important role in promtoing the region's economic development, exchange of information and social development. With the approval of the Ministry of Posts and Telecommunications, the region has been included in the network of international communications satellites.

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CSO: 5500/4148

BRIEFS

SHANXI BROADCASTING, TELEVISION FORUM--On the evenings of 4 and 5 March, the provincial broadcasting and television department invited the responsible comrades of all prefectures and cities attending the provincial conference on economic and planning work and leaders of the provincial economic committee and of the planning committee to a forum. They expressed their views on how to arouse the enthusiasm of all quarters and on how to develop our province's broadcasting and television cause. The comrades of all prefectures and cities declared: We must work hard to do our local broadcasting and television work well and expand the areas of coverage so that all townships and villages, particularly the masses in the poor counties and villages, can listen to broadcasts and watch television programs. (Jing Chengxu), chairman of the provincial economic committee; and (Wu Hunzhou), chairman of the planning committee, demanded: All places must make serious arrangements and work out plans for vigorously supporting the development of the broadcasting and television cause. We must give full play to the role of broadcasting and television--the most powerful modern means of propaganda--in the course of building the two civilizations. [Text] [Taiyuan Shanxi Provincial Service in Mandarin 2300 GMT 5 Mar 86 HK] /6662

PROVINCES PROGRAMS VIA SATELLITE--The communications and broadcasting satellite for practical use which China launched on 1 February was accurately placed in its permanent orbit above the equator at 103 degrees east longitude at 1730 today. The CPC Central Committee, the State Council, and the Central Military Commission sent a greeting message to all comrades who had taken part in research and construction, launching, tracking and control, application, and safety work, congratulating them on the success in permanently positioning the communications satellite. Meanwhile, the Ministry of Radio, Cinema, and Television also sent a message congratulating those concerned on the success in placing the communications satellite in permanent orbit. A station reporter learned from the Beijing satellite ground receiving station that this evening satellite ground receiving stations in Hebei, Shanxi, Shaanxi, Jiangsu, Shanghai, Hunan, Sichuan, Guizhou, Yunnan, Gansu, Xizang, and part of Xinjiang began receiving the national hookup news program of the Central Television Station and the national hookup program of this station transmitted through this communications and broadcasting satellite. [Excerpts] [Beijing Domestic Service in Mandarin 1200 GMT 20 Feb 86 OW] /6662

HEBEI RADIO-TELEVISION EXPANSION--By the end of 1985, Hebei Province had built an additional 24 radio stations, 6 times the total number of stations built in the past 34 years. To date the province has 1 provincial radio station, 3 prefectural radio stations, 6 city radio stations, and 18 county radio stations, and about 51 percent of the population can receive provincial radio programs. To date Hebei Province has 1 provincial television station, 1 prefectural television station, 2 city television stations, and 4 country television stations. Together with the newly established television relay stations, the province' television coverage has reached 76 percent. [Summary] [Shijiazhuang HEBEI RIBAO in Chinese 9 Feb 86 p 1 SK] /6662

HARBIN, EDMONTON TELECOMMUNICATIONS PACT--Harbin, 6 Dec (XINHUA)--The newly established sister cities of Harbin and Edmonton have signed a telecommunications equipment agreement, local city officials said today. The agreement, between the Harbin Municipal Telecommunications Bureau and a telephone company based in Edmonton, Canada, was the first item of cooperation for the two cities, which became sister cities yesterday. Under the agreement, the Canadian telephone company will sell Harbin 17 switchboards with 2,004 lines at preferential prices. The company will also provide advanced technology and traing telecommunications personnel for Harbin. [Text] [Beijing XINHUA in English 1459 GMT 6 Dec 86 OW] /6662

URUMQI SATELLITE GROUND STATION--Urumqi, 25 Jan (XINHUA)--A satellite ground station has been built and connected to the international network here in the capital of the Xinjiang Uygur Autonomous Region, according to the XINJIANG DAILY. The International Telecommunications Satellite Organization (Intelsat) announced earlier this month that the Urumqi satellite grond station was up to the world standard and could be connected to the network, the paper said. The ground station will start telephone and TV services to other ground stations in the country's major cities. The paper said this would help improve the northwest region's telecommunications links with other parts of the country. China plans to build a total of 20 such ground stations. The central government will rent a transmitter satellite from Intelsat as a temporary measure to expand China's TV broadcasting range before its own communications satellite system becomes operational. [Text] [Beijing XINHUA in English 1629 GMT 25 Jan 86 OW] /6662

SHANGHAI INTERNATIONAL PHONE INCREASE--Shanghai, 27 Feb (XINHUA)--Shanghai will increase its international telephone lines from 400 to 1,000 by 1990, an official of the city posts and telecommunications department said here today. Shanghai is China's leading industrial center and one of the country's 14 coastal cities encouraging foreign trade and advanced technology. The city plans to increase its urban telephone capacity from 270,000 lines to 600,000 over the next five years. Long-distance telephone lines are expected to increase seven-fold to 7,000 of which 80 percent will have direct dialing. To accomplish these goals, Shanghai will import program-controlled exchanges and optical fiber technology to transform the present microwave telephone system, the offical said. [Text [Beijing XINHUA in English 0743 GMT 27 Feb 86 OW] /6662

BEIJING-XIZANG SATELLITE TELEPHONE--Lhasa, 11 Mar (XINHUA)--People in Beijing can dial direct to Lhasa, capital of the Tibet Autonomous Region, via satellite. "The use of satellite communication since last week has shortened the time for putting through telephone calls between the two cities," said Du Baoliang, deputy director of the regional posts and telecommunications administration, today. "It takes only one minute for people in Lhasa to talk with people in Beijing through the semi-automatic telephone service, and the sound is clear," he said. A similar telephone service will be opened soon between Lhasa and Shanghai, Wuhan, capital of Hubei Province, and Chengdu, capital of Sichuan Province, according to the deputy director. The Lhasa satellite ground station is one of five such stations planned by the Chinese Government and built by the Ministry of Posts and Telecommunications. [Text] [Beijing XINHUA in English 1527 GMT 11 Mar 86 OW] /6662

CSO: 5500/4147

ARGENTINA

BRIEFS

TELECOMMUNICATIONS COOPERATION AGREEMENT--Buenos Aires, 6 Mar (TELAM)--Argentine Telecommunications Secretary Roberto Zubieta and French Telecommunications Minister Louis Mexandeau today signed a scientific and technical mail and telecommunications cooperation agreement. Through this agreement Argentine professionals and experts will be trained and given experience on the modernization of services which will benefit the Argentine National Telecommunications Enterprise [ENTEL] and the National Enterprise for Mail and Telegraph [ENCOTEL]. The agreement will also establish contacts to ensure the transfer of technology and a genuine strong investment to increase the already established industrial capacity of Argentina in the communications field, with a consequent increase in jobs. The subjects included in the scientific and technical cooperation agreement are the following: a switching and data transmission system, integrated network with its supports, transmission systems including satellite communication and a rural telephone system. The agreement also contemplates the installation of a microelectronic and informatic research center, with overall tariff planning, the installation of a mobile radio telephone system, data transmission system, and a cable TV network. [Excerpts] [Buenos Aires TELAM in Spanish 1837 GMT 6 Mar 86 PY] /7358

CSO: 5500/2032

GRENADA

BRIEFS

FIRST TV TRANSMISSION--Grenadians have at last begun to see pictures on their television screens as Discovery Television carry out tests which began on Tuesday night and has continued each night since for a few hours. On the first night a recorded speech by Prime Minister Herbert Blaize was aired and, without any vocal anouncements family entertainment films have been shown. It is believed that efforts are being made to make the arrangement permanent and that after a while programmes relayed from Trinidad and Tobago Television will be included in the evening's fare--but no one is willing to make an official statement on the subject, presumably until it is certain that the broadcast can indeed be permanent. Potential viewers have been asked to note that for the time being, only St George's can receive the station and set owners will need to turn their antennas towards the transmitter located on Fort Frederick at Richmond Hill. [Text] [St Georges THE GRENADIAN VOICE in English 15 Feb 86 p 16]
/9317

CSO: 5540/052

AFRICA'S ONLY PRIVATE RADIO STATION CONTINUES OPERATIONS

Dakar AFRICA in French Nov 85 p 43

[Text] Such a pleasant trip. Comfortably settled in the "bus" making its way from Dakar to Banjul, crossing the Sine-Saloum which smelled of the freshness of a recent rain, I listened to the latest Anglo-Saxon and African hit singles coming from the car radio. It was judiciously preset at 329 meters on the medium-wave band, the frequency of the only private commercial radio station in all of Africa: Radio Syd. (Africa number one's case is different).

In 1959, aboard the ship "Cheeta" off the Scandinavian coast, a Swedish national named Britt Wadner made the first offshore broadcast, thereby circumventing the laws in effect at that time throughout Europe: the state monopoly of hertzian band communication. This was the birth of Radio Syd, but also the beginning of a long struggle for liberalization and independence that would lead to the emergence of thousands of local private radio stations in the industrialized countries. Twenty-five years after this premiere, the northern countries and their societies are at the apex of a communication explosion, but what is Africa's situation?

It is quite different. Rulers here have opted to use audiovisual means of communication as a political propaganda tool at the service of incumbent regimes, thus rejecting democracy of the airwaves.

Gambia, however, seemed to partially escape the general rule with the establishment of Radio Syd in Banjul in 1970. Tired of the glacial waters of the Northern Sea and captivated like thousands of her fellow countrymen by the mildness of the Gambian coast, Britt Wadner obtained authorization to establish a private, musical radio station from Dawda Jawara. May 7, 1970 marks the beginning of Radio Syd's irresistible rise on the Gambian, and soon the Senegalese, Malian, Guinean and Mauritanian airwaves. Wholly financed by advertising spots and calling itself and apolitical music station--an essential condition of its right to exist--Radio Syd is nevertheless a breath of freedom adding rhythm to the lives of hundreds of thousands of daily listeners.

Radio Syd's popularity is easily confirmed by the musical background that prevails in the labyrinthe of Banjul's Albert Market or in a taxi.

With the aid of a powerful 2,500 watt transmitter and a high-performance generator, Radio Syd broadcasts 20 hours a day in 5 languages: English, French, Swedish, Wolof and Mandingo.

Radio Syd has no independent news program: it is Radio Gambia that is synchronized with the four daily newspapers and head of state's public statements. It is a full-time music station where live programs sponsored by cigarette and battery brands (Clarmont, Piccadilly King Size, Berec) which organize big prize radio games (automobiles, color TVs) alternate with recorded musical tapes. A want ad and communication service is also available to Ghanian listeners for the relatively moderate sum of 7.5 Dalasis (750 CFA Fr) for a message lasting a maximum of 1 minute.

From November to mid-April two daily programs of news and tourist information are offered to Scandinavian tourists in Swedish.

Constance Wadner Enhorning, daughter of Radio Syd's foundress, is currently director of the station. Overwhelmed by her radio station's large audience and by advertising financing, her medium range plan is to create a local, private television station operating on the same principle as Radio Syd. For the time being, however, the problem of a shortage of domestic electricity in Gambia and the excessive number of power cuts forestalls any initiatives in the area of private television. (National television will soon be established thanks to an 80,000 dollar loan from UNESCO, the Gambian minister of information, Landing Jallow Sonko, announced recently).

So let's wish good luck to Radio Syd which has just celebrated its 15th anniversary on the West African airwaves and which has, perhaps, inspired some vocations... When will we see a commercial radio station in French?

9825/12951
CSO: 5400/75

UGANDA

BRIEFS

JAPANESE AID FOR TV--The 13 vehicles purchased out of the Japanese grant and Uganda Government self finance amounting to $3.1 million for the rehabilitation and expansion of Uganda TV have been formally handed over to the government in Kampala. Receiving the vehicles on behalf of the government, the permanent secretary, Mr Wilson Walyama, noted with appreciation that the Japanese side had performed their part of the contract on schedule and acknowledged that most of the equipment and items stipulated under the contract have been received. Mr Wanyama assured the Japanese side that everything possible will be done to ensure a smooth implementation of the project. He set June this year as the target date for the completion of the project and urged all ministry officials, government authorities and other organizations who are charged with various responsibilities in the implementation of the project to do their utmost best. [Excerpts] [Kampala Domestic Service in English 1400 GMT 7 Feb 86 EA] /6662

CSO: 5500/53

FEDERAL REPUBLIC OF GERMANY

NIXDORF'S PLANS FOR SUPPLYING ISDN EQUIPMENT

Duesseldorf VDI NACHRICHTEN in German 27 Dec 85 p 12

[Article by R. Schulze:"Newcomer Moves in--Transborder Standards Lacking in Digital Telecommunications"]

[Text] During the transition from analog to digital telecommunications technology the computer manufacturer Nixdorf entered the telecommunications business with telephone private branch exchange(PBX) installations. Nixdorf has for some time been able to supply ISDN PBX equipment for the digitization of exchange lines, i.e. the development of the narrow-band ISDN system of the Postal Service. But Nixdorf also is ready for the generation after the next one, the broad-band ISDN. But now it will be main exchange technology for the postal service.

The Nixdorf company is a newcomer in the telecommunications area, a newcomer who did not exist five years ago and who last fall was able to celebrate the sale of 1000 digital private branch exchanges.

Entry into the telecommunications business started in 1982 with the sale of telephone PBX equipment. That was the time when telecommunications changed from analog to digital technology.

Because entry into a new market at the time of technological change clearly appeared successful, the Paderborn computer manufacturer is trying it again, this time with entry into the public, postal service exchange technology.

"After all, today there is much talk about the integrated services digital network, referring to the narrow-band ISDN which is now being installed, but the next generation is already on the horizon, the broad-band ISDN, and we do expect a considerable share here. We believe that this is a good entry into the generation after the next, if we consider the narrow-band ISDN the next generation," states Dr. Horst Nasko happily, who is a member of the board at Nixdorf, responsible for telecommunications: "We find this to be the right path, to enter a new generation with new means."

In this generation after the next, we deal with the development of a glass fiber net, which is being installed by the German Federal Post Office next to the existing cables. This is called a broad-band overlay network.

"We have received an order to supply exchanges for the broad-band overlay network and have started operation of the first broad-band exchange in the network of the Federal Post Office in Dortmund a few weeks ago" comments Horst Nasko on progress.

Nasko reacts quite irritatedly to the question whether the digital private branch exchanges, which are available for early delivery by Nixdorf, comply with today's ISDN standard? The usually calm Austrian retorts: It is not Nixdorf who transmits with 80 kbits/s, but the competition.

ISDN does not only imply digitization of the telephone technology, but the availability of more communications power at the subscriber. With a genuine ISDN connection he has not only a voice channel available as in today's telephone, but two channels, and all this with only one line connection.

Both ISD channels can, compared to today's analog method, transport much more information per time unit, namely each channel can transport 64 kbits/s with an additional signalling channel of 16 kbits/s, which sees to it that the information goes where it is supposed to go. This provides the transmission speed of 144 kbits/s mentioned by Nasko. Exchanges which lack the second channel can obviously transmit only 88 kbits/s.

Availability of two channels permits the user, for example, to simultaneously hold a telephone conversation and also receive data from a computer on the same line.

Nasko comments further on the PBX systems offered by Nixdorf. "Our structure is absolutely ISDN-like. We transmit 144 kbits/s over the two wire line, which can be clearly shown. We have many customers in the market place which use this capability. I can name customers, where you can see that a personal Macintosh computer from Apple, and an IBM PC, and a Siemens PC are connected to the telephone, and that data can be transmitted while telephoning."

And as if further proof were required, Nasko cites the Bundespost exhibit during the Systems Fair in Munich in november, where the Nixdorf telephone and attached personal computer were the only ones demonstrating a transmission speed of 144 kbits/s.

But the world of the narrow-band ISDN is not as standardized as it may seem. There are interfaces, which, according to Nasko will probably never become standardized. In the end it is a matter of the manufacturer how he connects his specific terminal equiment with his private branch exchange: We, however, are working in the Central Association of the Electrical Industry to develop a generally valid interface for our members firms, or say for Germany, which is similar to our present interface, and which will then, if the standard is followed, permit connection of terminals of all manufacturers to exchanges of all manufactures.

The Federal Post Office will demonstrate its first ISDN connections in 1988, pilot projects are operating in Mannheim and Stuttgart. But here too not all standards which were established by the Post Office for the pilot projects are internationally recognized. Not even in Europe can the postal people agree on something.

The Austrian Nasko, who as member of the board of the Paderborn manufacturer resides in Munich, is careful not to critizise people who might be tomorrow's customers: "In Brussels we are participating to have an effect especially on the standards organizations. One problem is that many of these things are being delayed because the standards have not yet been approved. The EG commision is very active in this respect. Not that it wants to develop its own, or new standards, but it wants to see to it that the existing standards organizations accelerate their work."

While standards in the computer field can always be established through the market domination of a manufacturer, suppliers of telecommunications equipment have always waited for the standards of the responsible postal authorities.

Despite liberalization and standards, whovever wants to sell something to a postal administration or wants to connect to one of their cables must satisfy country-specific regulations. Many computer manufacturers learned this the hard way.

"If you are active in foreign countries in the field of telecommunications considerable development is required to be able to adapt. Each country has different interfa[illegible]onditions, signaling methods, standards and regulations," reminis[illegible] Heinz Nasko on what had to be done to adapt his equipment to nine foreign countries. "Sooner or later we also will be active in the United States, but there the effort to adapt is especially great, and that is the reason that we have not worked very hard in the USA.

In this connection the member of the board cites the Minister of Post and Telecommunications Christian Schwarz-Schilling, who has shown that American companies have supplied, and still supply much more telecommunications equipment to the Federal Republic of Germany, and not only through their German subsidiaries, than German companies supply to the USA. German equipment can be found in the US only in very small numbers. Nasko: "that is damned little."

Licensing requirements in the USA are, notwithstanding formalities, not any simpler in the technical area than here, says the Nixdorf board member, who thus in no way shares the opinions of the defenders of the alleged liberal American market. As an example, the documentation to demonstrate to a licensing authority that equipment meets required specifications is much more comprehensive than here. It far exceeds what is required in Germany.

While the computer segment of Nixdorf shows lively cooperative activity as, for instance, with the Pyramid company in the US, and as a result CAD (computer aided design) activitirs enrichen the product offerings, the telecommunications segment of the company will be busy even without the US market.

Heinz Nako prognosticates: "We expect a greater market penetration next year, and a further expansion of the market share for all of our products."

In the telecommunications area the following products are offered:
- -Private branch exchanges
- -Exchanges for the Postal Service
- -Wide-band inhouse networks, say for companies which want to tranmit data rapidly,as betwen CAD stations and
- -Telecommunications terminals.

"We will also invest strongly in terminals, in multifunctional terminals, which will be adapted step-by-step to the ISDN world. Everyone who wants to use new services requires a new terminal" comments Nasko on this future market. The terminal market in the Federal Republic will surely be liberalized. The offerings of terminals which at the user end will be connected to an ISDN line will also increase.

An EG market study shows very clearly that in Europe the share of public, postal exchanges in the telecommunications market is on the decrease, while the share of private investment in this market remains stable. The share of sales of exchange installations are decreasing in the long term, while terminals show large shares of increase.

"We are developing terminals, which find use both in communications services in general, but also in data processing systems, replies Horst Nasko to the questions why the telecommunications field does not show such growth rates as the computer field: "these terminals can be considered either telecommunications or data processing. But terminals will certainly show growth rates with two digit percentage figures."

7994
CSO: 5500/2620

FEDERAL REPUBLIC OF GERMANY

DBP ISDN PILOT PROJECTS IN 1986/87 IN STUTTGART, MANNHEIM

Duesseldorf VDI NACHRICHTEN in German 10 Jan 86 p 2

[Article by R. Schulze: "Several Communications Media at the Work Place, Schwarz-Schilling Sees German Federal Post Office in Leading Position"]

[Text] In contrast to other countries there will be no local limited introduction of digital telecommunications technology but instead the integrated services digital network (ISDN) will be installed area-wide after completion of the pilot projects in Stuttgart and Mannheim. This was emphasized by the Minister for Post and Telecommunications, Christian Schwarz Schilling at the occasion of announcement of a medium-term development program for communications systems.

Digitization of the telecommunications network and the resulting more rapid tranmission of communications can be followed most simply by the postal patron by watching the telephone system. Introduction of the Integrated Services Digital Network permits, for example, the owner of an ISDN connection to simultaneously make a telephone call and transmit data and he also can call up different telecommunications services. New forms of communication are offered as for instance between electronic typewriters and remote copiers, (teletex and telefax), calls to different data services, and video screen text.

The German Federal Post Office will in 1986/87 make a test bed available with two pilot projects in Stuttgart and Mannheim to all terminal manufacturers for their development. Based on this, introduction of ISDN control is planned for 1988, with a transmission speed of 64 kbits/s, explained Minister Christian Schwarz-Schilling in explaining at year's end the development strategy, which is described in detail in a brochure. It is entitled Medium Term Program for Development of Technical Communications Systems, will be the basis for a postal symposium on 17 January in Bonn, and is available from the press section of the Federal Ministry for Post and Telecommunications.

As Schwarz-Schilling explained in the discussion with the VDI-Nachrichten, the potential for ISDN connections is initially based on two to three million business related main connections, to which are connected over 11 million subscribers via substations: the private branch exchanges quadruple connection possibilities for ISDN terminals. Until 1990, according to the minister, there could be one million connections to the private branch exchanges.

Based on the already available rate structure, an ISDN main connection will cost DM 54 per month base charge plus a surcharge of DM 10 if the connection is used for more than voice only. ISDN offers, in addition to voice, also data transmission with two simultaneous available channels of 64 kbit/s each. Since this additional use justifies an ISDN connetions, an additional DM 64 have to be paid to the Post Office for the main connection.

The minister emphasized that the German Federal Post Office provides not only planning integrity through the fee structure, but that it has achieved a leading position internationally through efficient digitization of the telecommunications networks culminating in the ISDN operation. Since the ISDN is built on the present copper line net, which has been constructed very carefully, conditions in the Federal Republic are very favorable.

Special value is placed by the DBP on uniform expansion of the ISDN without placing some areas at a disadvantage. In other countries service has been limited to certain metropolitan regions. Also the date of service introduction puts the Federal Republic in a top position.

Digitization of transmission technology started in the Federal Republic already in 1982. The 6200 local exchanges will by the year 2020 be completely converted to the new technology, while the 500 long distanace exchanges will be converted by the turn of the century. Digitization of the local lines will cost DM 6 to 8 Billion.

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CSO: 5500/2620

FEDERAL REPUBLIC OF GERMANY

BRIEFS

FRG CABLE NETWORK PLANS--By 1987/8, the German Federal Post Office must have about 4.4 million TV households connected to the cable network. On this depend not only the economic feasibility of this broad band distribution network, but also the existence of private television program producers. This is the conclusion reached by Prof. Dr. E. Witte, president of a Munich association of experts, called Munich circle, in a recently published study. Only this number of subscribers would create the minimum requirement for securing the economical operation of private television stations. Experts disagree whether the Federal Post Office can meet this goal. First, such a cable connection requires additional charges, and secondly, it is not yet available everywhere. At present, only 1.6 million households subscribe to the TV network. According to figures of the German Federal Post Office, the number of subscribers will reach 2.5 million in 1986. In order to reach additional subscribers as fast as possible, DM 1 million to 1.5 million are invested annually in this area. Extension of the network is made on a priority basis primarily in densely settled areas. The charge structure for TV cable connections, introduced in the fall, will remain unchanged until early 1986 in order to encourage hesitant customers to subscribe. [Text] [Duesseldorf VDI Nachrichten in German 27 Dec 85 p 1] 7994

CSO: 5500/2620

FRANCOPHONE SUMMIT DECISIONS ON TELECOMMUNICATIONS DETAILED

AB271648 Paris Diplomatic Information Service in English 1448 GMT 27 Feb 86

["Conference of Heads of State and of Government of the French-Speaking Countries (17-19 February 1986). Decisions."]

[Excerpt] International Francophone Television Pictures Agency

1. In every country in the world television news is largely dependent on the international circulation of pictures with commentaries: (?98 percent) of this material is currently supplied by English-language agencies.

2. On France's initiative, the conference decided to found an Agence Internationale Francophone d'Images Televisees (AITV) to provide within the three years a worldwide twenty-minute daily news service adapted to the major regions of the world. It will supply pictures from all Francophone countries of both North and South.

3. The technical base will be provided by the French public-service RFO (Societe Nationale de Radio-Television Francaise d'Outre-Mer) which has already begun to operate such a service.

4. AITV will cost 16 million French francs per year for three years. France will contribute Fr 5 million in the first year.

TV 5

1. TV 5 is a Francophone programme for the European cabie networks, supplied jointly by the French, Belgian, French-speaking Swiss, and, since this year, Canadian and Quebecker-Canadian public-service television organizations. But TV 5's total programme transmission time and catchment area are still insufficient.

2. The conference adopted the principle of extending its catchment area to North America and other geographical areas. To this end, consultations between the relevant ministers will be held in the near future.

The conference also adopted the principle of opening up the service to the southern Francophone partners' programmes. The countries concerned might form a consortium for the purpose.

3. With a view to doubling programme transmission on TV 5 and widening its catchment area, France is prepared to increase her contribution to Fr 29 million.

Satellites and Francophonie

1. The conference expressed a wish to use satellites to increase broadcasting of Francophone programmes in the world.

2. France--currently carrying out her TDF 1 [Television de France] direct television satellite launch programme--offered to open one of the satellite's four channels to Francophone programmes. This will be done within the cultural and European channel, a subsidiary of the public service, which has just been created and should begin transmission via the satellite at the beginning of 1987.

Consulting Data Banks on an International Scale Using Videotex Systems

1. The most modern aspects of communication, and in particular the consulting of computerized data banks, must be developed in the Francophone area.

2. There is a simple, low-cost system of consulting, using the telephone and a display terminal--Videotex. In France, two thousand data banks are currently accessible to private individuals and firms through the telephone network and the system is meeting with considerable success since one-and-a-half million minitel terminals are now in service.

3. Extension of the service to the Francophone world would be desirable. Action can be taken in two specific directions to reduce the cost of the user:

a. International transmission, the rental of a telephone circuit for each call is very expensive. Setting up packet switching systems at both ends and at the interconnections would cut the time on the international telephone line itself and therefore the cost of the call. So far packet switching systems have been set up in the Ivory Coast, Gabon, Cameroon, Canada, Belgium, Switzerland, Luxembourg, and France. They are planned in Tunisia and Senegal. With this system transmission costs can be cut to half or even less than a quarter of those using conventional telephone circuits. For example, calls between Gabon and Europe would cost Fr 4 a minute compared with Fr 22 a minute with the conventional system.

b. Payment for using the data bank itself. Under what in France is known as the kiosk charging system--by analogy with a newspaper kiosk--the user no longer has to have a contract with the data bank. The telephone network invoices the caller directly and automatically (using a meter) and then passes on a proportion of the payment to the data bank. The latter sees a huge increase in customers because the system is so simple and can then reduce its charges considerably, as has happened in France. So France proposed and the conference agreed to set up a working group on that matter, to deal with both the technical and economic aspects. It will meet during 1986.

Data Banks and Videodiscs

1. Totally new prospects for education are now offered by the new data processing technologies which combine:

--Processing and microcomputing capacity;

--Optical storage of both text and pictures;

--Use of quasinatural documentary languages for exploring the content of scientific and technical data banks.

Pictures are playing an increasing role in medicine, particularly for student and practitioner training. The end-product of the project adopted by the conference is therefore a new training tool for students and practitioners calling on a new technology for storing and disseminating data--the videodisc.

2. Today 50,000 video pictures can be stored on a 30cm diameter disc and any picture or sequence can be projected on an ordinary television screen, using a microcomputer and interrogation software combining natural language and the language of the medical specialization.

3. The conference asked for a working group to study the use of videodiscs in medical training in Francophone countries, on the basis of experimental schemes already underway, particularly in France (La Salpetriere Hospital).

France, which is going to install videodiscs in several French medical faculties, proposed to contribute around Fr 3 million to extend the trials to medical faculties in other Francophone countries. That would enable 10 centers or faculties to be equipped and supplied with documents on videodisc and users trained.

/9365
CSO: 5500/2631

NEW ORGANIZATIONS PROPOSED IN DECREE ON PTT REFORM

Paris ZERO UN INFORMATIQUE in French 13 Jan 86 p 9

[Article by ES; first paragraph is ZERO UN INFORMATIQUE introduction]

[Text] The Ministry of PTT is going to reorganize. The reform plan introduced by Louis Mexandeau is intended as a response to the deregulation phenomenon.

The organization of the PTT Central Administration is based on legislation dating back to 1971. In 15 years, however, quite a number of advances have wrought deep changes in the world of communications: The advent and rapid diffusion of new techniques, the overlapping of sectors of activity theretofore isolated from each other, the increased role of telecommunications in the electronics field and in new sectors such as space, and finally, and perhaps above all, the turbulences buffeting the international environment as a result of the deregulation phenomenon. All these factors, but also a need to maximize the effectiveness of general directorates, call for a structural reform.

Ensuring Continuity of Public Service

"The PTT must be able to meet the competition from multinational groups which is about to make its advent if it has not already done so," explains the minister of PTT in the magazine MESSAGES DES PTT. The problem is how to create a true "PTT enterprise."

Privatization is automatically ruled out, since it would be tantamount to putting to an issue again a tradition of the public service and would weaken the PTT enterprise vis-a-vis its international competitors. The transformation of the PTT into public utility entities or state-owned companies is also excluded, since this would amount to breaking up the unity of the PTT and changing the legislation, without guaranteeing any improvement in the operation of the industries.

The approach that has actually been decided on, and which is felt to be an offensive French response to the problem of deregulation, limits itself to clarifying roles and assigning responsibilities to those concerned, within the current legislation governing the PTT. Thus, the proposed reform, as submitted during a recent meeting of the Higher Council of the PTT and approved 19 December last--by a vote of 24 to 6--by the Joint Technical Committee, rests essentially on two points:

--Creation of a general delegation for strategy (as we reported in 01 HEBDO No. 884), whose mission will be to determine the principal long-term policy guidelines for the Post and Telecommunications branches of the PTT, which will be binding on the Ministry; exercise the regulatory authority; and evaluate the advances in the electronics sector and exercise oversight of that sector;

--Bringing of the DIPAS [Directorate of Personnel and Social Matters], on the one hand, and the BC [Directorate of the Budget and Accounting], on the other, under one overall, "horizontally" configured, Delegation of Common Affairs. This new body will be charged specifically with laying down the general regulations governing personnel administration and management, and budgetary and accounting regulations, and with responsibility for ensuring their application.

At the same time, the management responsibilities of the PTT's two branches--Posts and Telecommunications--will be increased, with their general directorates required to operate as responsible and accountable entities while adhering to the principle of unity of the PTT. Convinced that it is entirely possible to combine public service with efficiency and profitability, Louis Mexandeau adds: "By modernizing the networks, offering new services, improving the quality and reliability of service, and having a clear and competitive tariffs and rates policy, the Ministry of PTT will respond validly to the competition and implement an offensive strategy in relation to the public service."

9238
CSO: 5500/2615

BRIEFS

SEP-MATRA JOINT VENTURE--Paris--On 14 January, in Paris, the SEP [European Propulsion Company] and Matra announced their participation in a joint venture, the "Image International" group, in the civil and military observation satellite image processing market. This GIE [economic interest group], baptized "G21," will enable the two companies to "coordinate their efforts in France and abroad, and share the responsibilities and tasks involved in the execution of the contracts obtained," said an SEP spokesman. The two companies also plan to organize R & D programs on new systems and products in this domain. [Text] [Paris AFP SCIENCES in French 16 Jan 86 p 21] 9238

CGCT ACTIVITY TO MATRA--Paris--The nationalized group CGCT [General Telephone Construction Company, formerly ITT France] has signed an industrial, commercial and financial agreement ceding its private telephony activities to Matra, it was learned from the two companies in Paris on 15 January. This link-up plan, which was the subject of a CGCT central works committee proceeding, calls for the creation of a subsidiary for telephone instruments, business telephony and radiotelephony activities, and telematics terminals. Its disclosure marks the first step of a "sale by compartments" of the CGCT, with a view to the eventual signing of an agreement that is still pending between the CGE [General Electric Company] and AT&T in the domain of public telephony, according to informed sources. The American giant would thus gain the 16-percent share of the French telephony market presently held by CGCT, which would then become AT&T's subcontractor. [Text] [Paris AFP SCIENCES in French 16 Jan 86 p 26] 9238

FIRST PRIVATE COMMERCIAL TV NETWORK--Paris, Feb 21 (AFP)--France's first private commercial television network "Channel-5" began broadcasting last night with a potential 18 million viewers in 14 cities, breaking the 30-year monopoly of the three state-run stations. The "5" broadcast a four-hour gala opening programme from Milan, headquarters of Italian "TV spaghetti king" Silvio Berluscono who runs the network with France's Jerome Seydoux. For the first time in France, advertisements interrupted the entertainment for 120 seconds each 10 minutes. Until now, such spots were allowed here only before and after each programme. Mr Berlusconi has announced that advertising revenue for March totals 150 million francs (about 20 million dollars). The decision to permit a private network was taken, surprisingly for many, by a Socialist government which has always maintained that the radio and television media should be used largely for educational and cultural purposes. But critics of the Berlusconi fun-mill claim that he will lower general standards. There has also been political attacks on President Francois Mitterrand for allowing "5" to open only a few weeks before the March 16 parliamentary elections, turning voters' attentions from more serious matters with game shows and leggy dancers. [Excerpts] [Paris AFP in English 1325 GMT 21 Feb 86]
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CSO: 5500/2631

TELETTRA EXPANDS TO U.S.

Rome LA REPUBBLICA in Italian 11 Jan 86 p 33

[Text] Telettra (the telecommunication company controlled by FIAT) arrives in the United States in partnership with GTE, another Italian company, although its capital is controlled by the American multinational company of the same name. The aim is to take away some of the market controlled by giants like ATT, Northern Telecom, Rockwell, and the Japanese NEC.

To achieve this goal the two Italian companies have formed a company called "G and T" whose task is to market a particularly sophisticated high performance radio relay. According to plans, by 1990 the new company should control 12 percent of this specific market. The current value of this share of the market is around 60 billion lire.

The initiative was explained yesterday by Raffaele Palieri, the managing director of Telettra, and by his colleague from GTE Communications, Sergio Treves. Together, the two companies control 30 percent of the European market for high capacity digital radio relays, the value of which in 1985 was equal to 420 billion lire. Now with "G and T" they hope to also make a breakthrough in the US. One should point out that the users' standards are different on the opposite sides of the Atlantic and therefore new lines of production will have to be activated. Presently, only the Japanese from NEC sell their radio relays both in Europe and in the US.

While answering a few questions, the managing director of Telettra explained that the new accord does not exclude Italtel, the company of the STET group with whom Telettra is preparing to sign an accord. To this end, he explained that a mixed group FIAT-STET, soon to begin its work, has been tasked to study the synergies between the two companies and the eventual merging of some of their activities.

Regarding the 85 balance-sheet, Palieri announced that the gross receipts amounted to 485 billion lire (+18 percent) and those from foreign enterprises 250 billion lire.

On its part, GTE registered a sales volume of 500 billion lire with an increase of 20 percent. Profits will be higher than last year, although the executives didn't give any figures.

13120/9190
CSO: 5500/2586

STET, MONTEDISON FORM TELEVAS TO EXPAND SERVICES

Milan COME - COMMUNICAZIONE MONTEDISON in Italian Nov 85 pp 6-7

[Text] The field of teleprocessing, so strongly influenced by technological innovations, does not guarantee survival and growth to those that are merely able to present products or furnish increasingly sophisticated and competitive services.

This assumption is behind the decision which compelled Montedison and STET to form a new company to provide, design, and market value added teleprocessing services.

The company, presented last November 20 at a press conference in Milan, is TELEVAS, headed by Simone Fubini; 51 percent of its stocks are held by SEAT (of the STET group) and 49 percent by Me.T.Z. enterprise (of the Montedison group). TELEVAS has an initial capital of 2 billions which could be augmented within a short time. Regarding its company and personnel structure, the company will rely on a central nucleus of approximately 35 highly skilled professionals to be hired directly from the market. Around this central nucleus will gradually converge the planning and management personnel necessary to satisfy outside orders and distribution activities connected with the services to be provided. TELEVAS could reach a level of a hundred employees within 3 years, while after 2 years in the market its gross sales should be about 15 billions.

What is the objective of this company borne out of two giants from the public and private sectors? The specific objective of TELEVAS is to conceive, realize, manage, and market telecommunication network services through which some messages are stored or processed in such a way as to add a commercial value as these are transferred from the sender to the receiver.

These services, in operational usage, are in fact defined as value added services and also include processing connected with data collection and transmission efforts over large areas. In particular, the company will operate in Italy and outside in value added services geared to specific classes of merchandise, that is, to defined segments of the market where it applies.

The first applications of TELEVAS will concern the retail sales segment of the Montedison group (STANDA and Euromercato). Thus large scale and significant experience can be accrued and subsequently used in the open market, after an initial period of supervised development.

The engineering and software capabilities present in the two group of companies will allow TELEVAS to be independent from software companies; these will be selected on the basis of their responses to the requirements of the service.

Since we are dealing with essentially application services, public communication networks will be used for information transmission (thus the presence of STET through SEAT); an important role will be played in this respect by the telephone concessionaries.

In its first phase of operations, lasting a couple of years, TELEVAS can be considered a "test ground for applications" to verify the real applications of value added services during transmission (electronic bill-paying, management of chain stores, logistics, etc...). After this phase, which will permit an economically balanced start, the unprotected market will be faced with a fee structure which will consider both the cost of data transmission (fixed by the public networks managed by SIP) and the effective added on value offered and evaluated on a commercial basis.

Montedison and STET decision to come out with this type of service is not fortuitous.

For the financial arm of IRI in the sector of telecommunications, this enterprise means carrying out a technical and commercial supervisory role over the positive synergies presented by value added services and the ITAPAC public data transmission network. Besides, STET has intentions to also offer this type of service on the free market, entrusting to SEAT the execution of the first endeavor since SEAT has already begun operations in the field with the recent introduction of the "electronic yellow pages", the first sizeable value added service.

For the Montedison group the decision to operate through the Me.T.A. company appears as an obvious choice.

It is, in fact, in this environment that opportunities of synergies and integration of services arise, and this is the primary objective of the Montedison subholding company for advanced services, strong in the specific know-how acquired through Datamont's management of one of the major private telecommunication networks in Italy. The reasons compelling Me.T.A. enterprise to enter this sector have been amply illustrated by the vice-president and managing director of the company, Giuseppe Garofano.

He pointed out that teleprocessing, computer processing, and telecommunications, in addition to being services in their own right, constitute a fundamental infrastructure for the development of other sectors of the service company. Consequently, for Me.T.A. enterprise, an integrated service company, the participation to TELEVAS represents an operational choice of strategic character.

Garofano also stressed that the characteristics of the two partners are guarantee for a rapid success in its activities, starting with the retail distribution sector.

In fact, the market which can be acquired by TELEVAS appears rather solid.

Limiting the analysis to the distribution sector, and excluding direct involvement with the end-product clients and considering only the operational users, the potential customers could be 800,000 small independent businesses, including wholesale and retail food and non-food dealers; about 7,000 chain stores (supermarkets, discount stores, cash and carry, etc...); and about 20,000 companies which manufacture goods to be marketed. Finally, in case of a controlled promulgation of services, even if limited to the distribution sector, it does not seem unrealistic to forecast a market in which TELEVAS will be able to achieve leadership position.

Fact Sheet for TELEVAS

The company objective includes all activities connected with the design, implementation, management, and marketing of services using telecommunication networks, through which some messages are processed in a way such that a commercial value is added as these are transmitted from the sender to the receiver.

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Capital: 2 billions

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ITALY

SIP ADOPTS PACKET NETWORK

Rome L'UNITA in Italian 8 Feb 86 p 15

Let's consider characters and numbers as unpackaged merchandise. Before transporting them to distant places, that is, transmitting them through a telecommunication network, it may be more convenient to prepare them into packets. This is a very brief explanation of what SIP [Italian Telephone Company] does with a new service called, appropriately, ITAPAC, abbreviation which stands for "Italy" and "packet". With ITAPAC one can send words and numbers through a special network and these are received at a chosen destination. This can be done throughout Italy, and if desired, throughout Europe and across the ocean; the system is connected with other similar ones operating over the whole world.

Explained this way it seems a trivial discovery, but the technicians assert that it isn't as easy as it sounds. In other more technologically advanced countries this system has been used by research centers, banking institutions, universities, large firms, for a least 10 years already. In Italy it is a novelty, or almost; the first transmissions were made only 12 months ago. For now, the users number to little more than a thousand courageous technological pioneers. But this system appears to have great potentials, and growth, SIP says, will be more than certain.

And this is supported by the fact that the development schedule is proceeding according to the pre-established time table: eighteen months ago an ad hoc agreement was signed between the Ministry of Posts and SIP for the inception of ITAPAC . SIP pledged to put into function an extensive network by February 28 of this year. We are approaching the deadline and this network does exist. The transmission of data packets can be effected from practically any place in Italy; the system can already satisfy the requirements of 5,000 users. But why transmit numbers and words in packets? What is the difference between sending data in a disorderly fashion and sending data that has been "packaged"?

Let's dwell on this point. There's more to data transmission than meets the eye. Not all transmissions are the same and the users know this well. One thing, for example, is to transmit data in a continuous fashion, without interruptions--numbers and words, one after the other, utilizing the full capacity of machines and network. It is something else to have the need to send information at intervals, with long pauses, discontinuously, concentrating maybe a great quantity of characters and numbers into a predetermined time span and blanking out long minutes. It would be cumbersome to continuously interrupt the connection so as not to pay exhorbitant fees, and then reopen the line when there's again need to transmit.

This may seem a small inconvenience. But it isn't for those that work constantly with numbers and words that have to be transmitted from one place in Italy to another; for someone, for example, using a computer terminal to receive or send information. But it isn't only a question of streamlining the workload. It is also a matter of savings. Up to a year ago, it was possible to transmit data only through the SIP telephone network. But, because of the way it is structured, that service is paid according to time utilized. It was a big problem for the user that sent information in a discontinuous way.

With ITAPAC, the main criterion for determining fees is the quantity of data transmitted and not the time employed in the transmission. Going back to the first example, in conclusion, one pays the carrier for the load and the transmission; the time employed is mainly the carrier's concern. There is, anyway, a substantial difference in the SIP system because, although it is true that the time criterion is almost not a factor in determining fees, the transmission of information from one place to another in the nation occurs in real time.

This aspect of savings may be better explained with an example. Let's suppose that someone in Milan needs to access a scientific data base in Rome. And let's suppose that 150 transactions occur between the two sites and that the average duration of the call is ten minutes. With the traditional system, this service could cost more than one million when we apply the fees for a Rome-Milan connection, i.e., those for the sixth subdivision of the tariff rates. With ITAPAC the cost is reduced by one fifth, about 200,000 lire. Savings are realized even when the two connected points are much closer, but obviously, the savings are not as great.

But it is also convenient for the provider of the service. Because even in the case that the line remains virtually open between the two points, effective use of the network occurs only when transmission of the packets occurs. During other times the lines are empty and can be utilized for other transmissions, fully, satisfying more users, transporting a greater data load, and therefore with greater profits.

Who can tie into ITAPAC? The system caters to very specialized users. The packeted data can be sent by using appositely named packet terminals which format words and numbers according to sequences appropriate for transmission through the network; or even from less specialized terminals, known as asynchronous to technicians, which send one character at a time. In this case specialized equipment in the network will packet the information. In any event, it is possible to connect the two types of terminals. But there's a difference: while the asynchronous ones are capable of transmission speeds from a minimum of 300 to a maximum of 1200 bits per second (eight bits are required to form a character), the packet terminals are capable of much higher speeds, from 2400 to 9600 bits per second.

Are there possibilities of errors? It seems that these are almost reduced to zero because in the network is at work a kind of monitor that warns the terminals in case of erroneous transmission, and forces them to correct themselves.

In conclusion, at SIP they say that data transmission is better by the packet.

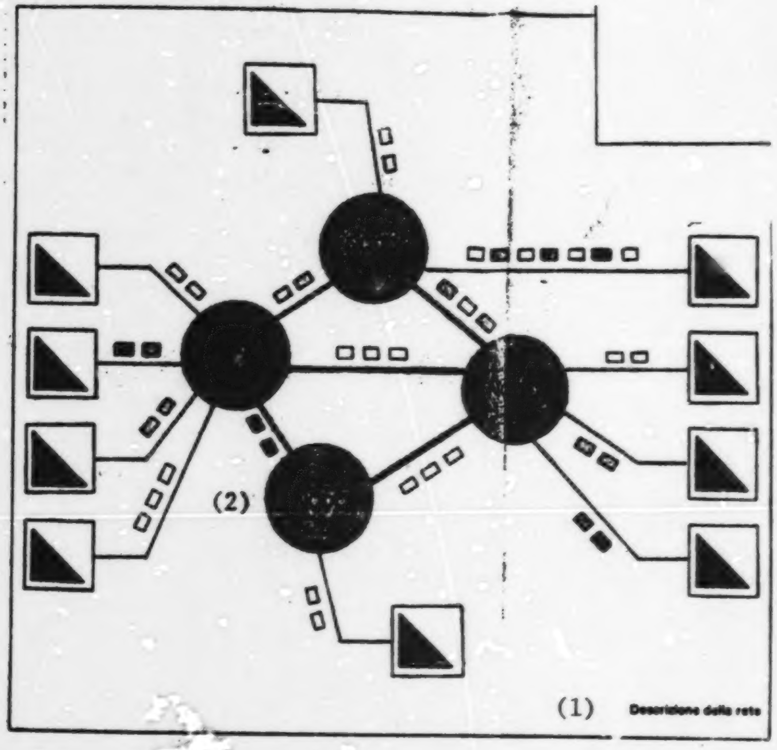

Figure 1

Key:

1. Description of the network
2. Node

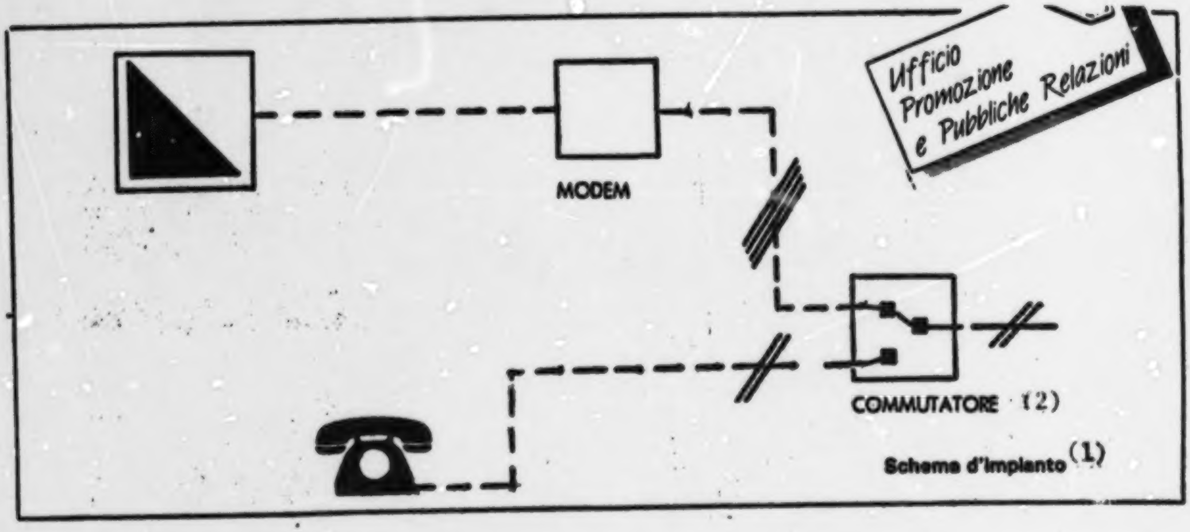
Ufficio
Promozione
e Pubbliche Relazioni
MODEM
COMMUTATORE (2)
Schema d'impianto (1)

Figure 2

Key:

1. Installation design
2. Commutator

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NORWAY

TELECOMMUNICATIONS AGENCY GENERAL DIRECTOR KJELL HOLLER

Oslo AFTENPOSTEN in Norwegian 8 Feb 86 p 10

[Article by Ole Johan Nilsen]

> [Text] The name of the Telecommunications General Director is still Kjell Holler. He is now entering his second term and is happy that the Telecommunications Agency is more exciting than ever before. Before he retires, he will stand at the head of an organization that delivers an enormous stream of data. Now and then something has to go wrong, but he consoles himself here with the law of large numbers. He and the other 20,000 employees can live with a few letters to the editor each day in Oslo as long as the Telecommunications Agency manages to come to grips with over 99 percent of the errors. To avoid making mistakes, he drinks coffee in the canteen every day he can. There he finds, among other things, pleasant co-workers with good pedagogical ability. This is a big help in the data age.

AFTENPOSTEN asked him if he could imagine taking over the leadership of the national railways and bringing all the trains on schedule. Or becoming health director and putting things in order there. But he said he was happy to have the job he has. He fully understands his colleagues' problems in the Norwegian National Railways: low level of investments for many years, delays, and service problems. As for Mork and his lines of people waiting for medical treatment, Holler says he knows little about this field.

"But modern leadership principles do not seem to have come into effect in all administrative organs of the public sector," Holler added. For five years he has himself observed and hastened the development in the Telecommunications Agency from a traditional civil service style to one of modern leadership. "Such things take time," he says today.

AFTENPOSTEN: The child is the father of the man. What did the preacher's son from Rjukan learn that has been useful later in life?

Holler: At any rate I learned how to adjust to new situations. We moved a lot. Five or six times I changed my circle of friends. This makes getting to know people easier. Or the opposite. In my case, the result was positive.

His ability to adapt must have been well developed. In the course of his working life, he has had five different jobs. After completing his studies in economics, he became a contributing editor in economics for ARBEIDERBLADET ("In Brofoss' time, when the country was led"). After this, he was in the Federation of Trade Unions and then an industrial minister in stormy years. He worked for the Samvirke Insurance Company and is now the director of the Telecommunications Agency.

"In all these positions I could use essential things from earlier jobs," he said. Information, dealing with political officials, organizational life and patterns of organizational reaction, competition, sales, and so forth." There is a wonderful story on how young Holler arrived at Jern and Met's rostrum and couldn't find room for his manuscript. When he told this to Konrad Nordahl, he received the clever answer: "That rostrum is not made in 8 by 11 size; it is made for the clenched fist."

Holler has stored this episode in his memory and uses it to illustrate the importance of oral, easily understood presentations. In the course of time he attained the reputation of being one of the few people who could speak understandably on economics. He avoids phrases like those of today's economists such as "net negative proven new balance," for example.

AFTENPOSTEN: Have you kept up with hobbies such as music, bridge, and carpentry?

Holler: Today I stick more to the piano, together with a little bridge and going to my cabin. But the music began with a ukulele. It was my first instrument, and I took it along 9 April 1940 when we moved from Horten. Later, in junior high school, I decided to make an instrument and ended with a cross between a ukulele and a guitar. The result was so good that I was excused from woodwork for the rest of the year.

Then I began with the cello and played in the Kragero Music Society. The other cellist was a doctor, and he was once called out on a case during a concert before a packed house. I had to take over a solo on a very short notice and didn't like it at all. Afterwards I asked the director how it had gone. He said that at any rate I hadn't done any damage. This was my public debut. After a while I began to play the organ for marriages and funerals, but now I play the piano.

AFTENPOSTEN: Was it easier to run the Telecommunications Agency in 1930 with 7,000 employees?

Holler: Today we have, at a rough estimate, 20,000 employees in the Telecommunications Agency. I am fond of saying that today all Norwegians know about the Telecommunications Agency and deal with it, but only a very few have any dealings with Spigerverket. We produce things in mass. This means that according to the law of large numbers, something must go wrong. In Oslo, 200,000 errors appear on the network, and we manage to correct over 99 percent of them. Still, 1,000 errors remain -- enough for three letters to the editor every day in the newspapers. We just have to live with this.

AFTENPOSTEN: What do you think of the statisticians' predictions of a development before the year 2000 that can be more comprehensive than what we saw in the days of Newton?

Holler: The catchword, "data," releases a flood of enthusiasm. A fusion of telecommunications technology and data systems is taking place. Digitzlization is the thing. The first telecommunications center to use hypermodern technology nowadays is in Trondheim. In 1992, half of the telephone subscribers will have such equipment, and the Telecommunications Agency will deliver a continual stream of data with enormous capacity. But this requires much in the form of investments, training and retraining. While we keep a little of the old, we must learn to understand the new.

Holler is supported by an ambitious plan the Storting has approved and that can give us a top place in Europe in 1995 in telecommunications. "But we are an expensive country," the director added. With a sigh, he said that the Danes get along with four relay transmitters for the whole country. "Here we have 1,900 transformers that cover 99 percent of the population with TV. The remaining one percent alone requires 600 new transformers."

AFTENPOSTEN: Do you manage to keep abreast of all these new developments?

Holler: There are no basic new developments that I do not know about. But it is complicated. For example, one must intuitively understand what digitalization is. Otherwise, one simply leaves this job. I am fond of saying that I am dependent upon pleasant co-workers with good pedagogical ability.

Holler remembers an American cartoon of a man sitting alone in a skyscraper in a huge office with many machines. He imagines that this is the way it is at the top of other skyscrapers, too, and so he calls to his secretary: "Annie, can you get me in touch with somebody?"

"That's not the way it is in the Telecommunications Agency today," he said. "I am very much in touch with what is happening. I often give lectures, and I always drink coffee in the canteen."

Holler says that the new catchword is "business climate." He has an excellent example of the opposite. In the 1970s, every applicant for a telephone was a thorn in the side of the agency. As soon as a person became known as a worrisome applicant, a form was filled out on him and he was known as a bother. "We live in a completely different world today," Holler said. "Our goal is to become a more cooperative monopoly. Much is yet to be done. The process takes time."

AFTENPOSTEN: Concerning the Telecommunication Agency's struggle to be at the top of technology -- will we be able to get ahead in little Norway?

Holler: Too few people are being trained in the field of telecommunications technology. The Telecommunications Agency alone absorbs about all that are trained. But there is also an industrial need. Our biggest problem is getting and holding the necessary number of specialists. Without enough people, we will not be able to digitalize. All the authorities agree on this. We are in a continual dialogue with the consumers, the Ministry of Administration, and the Ministry of Transport and Communications on the retention of people. They show some understanding, but not enough. The classical problem is that people have children in their teens, life becomes expensive, and they go into better paid work.

Holler is satisfied with the "raw material" that comes to the department from Norwegian schools. "It has gotten better with the years. Twenty-year-olds are better and better educated, and our staff is becoming qualitatively stronger. Soon we must take over part of the school's pupils to do our own teaching and retraining."

He speaks well in the interview. He is trained in this function. But he is a little disturbed when we cite a Labor Party election notice from 1961, which stated quite broadly that bureaucracy was something completely foreign to Holler. We asked him if this was true today.

"Did it really say that?" he asked. "Well, we have enough bureaucratic red tape in our own ranks. On the other hand, it is important to have clear rules for administration. But we would like to have greater freedom of action in the Telecommunications Agency," he said somewhat wistfully.

AFTENPOSTEN: How are relations with the Norwegian Broadcasting Company?

Holler: In general, they are good. But we are a purely technical department that provides apparatus. The political authorities decide policy. As the director of the Telecommunications Agency, I am anxious that the agency not involve itself in media policy.

AFTENPOSTEN: What about the turnover in leadership in a small country? Has the rotation period become shorter with the years?

Holler: "Yes, I think so. This is confirmed, among other ways, by the regulations for length of terms in top positions. I am now entering the last of my two terms. There are enough exciting tasks. The Telecommunications Agency has never been so exciting as now," he added somewhat longingly.

Captions:

1. From traditional civil servant style to modern leadership in the Telecommunications Agency -- Kjell Holler takes a great part of the credit. Now he has been assigned the leadership position in this national "plant" for a new term.

2. "In Oslo 200,000 errors occur on the telecommunications network. We manage to correct over 99 percent of them. But 1,000 still remain -- enough for three letters to the editor a day in the papers."

9124
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SPAIN

LAW GOVERNING PRIVATE TV TO REMAIN UNCHANGED

Madrid EL SOCIALISTA in Spanish 18 Jan 86 p 5

[Interview with Francisco Virseda, general director of mass media; date and place not specified; first paragragh is EL SOCIALISTA introduction]

[Text] The law that regulates private television channels will not contain technical considerations or establish the number of private channels to be conceded. However, it will establish "concession" as the legal way to have access to a private channel, with the state always having title. It will be a short, organic law with 17 articles. These facts were provided by the general director of mass media, Francisco Virseda, in the interview that follows.

[Question] Certain public leaders, interested journalists, and many of the public ask when the government will send the bill on private television to the Cortes.

[Answer] There is no set date. The only commitment made personally by the president is that a bill to regulate access by the private sector to television will be submitted to the Cortes during this legislature.

[Question] What elements is the government shuffling around in order to regulate private television?

[Answer] In order to regulate private television, it must have concrete data and an analysis of the current situation. There are technically only two telecommunications networks in Spain that could carry private television channels. One network is Television Espanola which is prepared for that and the other is Telefonica. One difference between the two is that the first is a state network; it is public. The second is not a state network although the state has 47 percent participation in Telefonica. The second difference is that Telefonica is telephony, not television. Of course, with a number of investments and adaptations, it could be used as a television network. Another consideration is that there cannot be comparisons with the United States or other countries as to the establishment of a certain model of private television. The Spanish advertising market, the basic support for private television--apart from the sale of programs which can raise funds--has very limited expansion. There is no question that when there are other television channels, there will be competition in television advertising rates and that will generate more television advertising. However, will that be enough to meet the economic needs of all the channels, public and private? That is the question.

[Question] And the answer?

[Answer] In a limited way.

[Question] And....

[Answer] I want to draw some provisional conclusions. First, an increase in channels in Spain would make different television projects unviable. Second, considering the possibilities for the number of channels--national channels and local channels--private local channels would rarely be profitable. In other words, they would only be in very populated areas and cities: Madrid, Barcelona, Bilbao, and probably Valencia and Sevilla....Who wants private television in Badajoz or in Avila, for example? If that system of coverage were chosen--exclusively local--we would be generating first, second, and third class citizens in Spain again as far as the mass media are concerned. Therefore, it seems logical that the option would be to concede national channels.

[Question] According to this analysis, the concession of private local channels would be eliminated. What technical possibilities exist for private national channels?

[Answer] The technical possibilities are limited. In conventional broadcasts through the land network, we only have the frequency for two national channels. Spain negotiated poorly in Stockholm in 1964 at the conference to distribute television frequencies. It was assigned three broadcast frequencies. With those that Television Espanola uses and those of the autonomous channels, there is only room right now for two channels through the land network. By satellite? There are many more possibilities. Using optic fiber cable? Even more.

[Question] Is the future law going to define the number of private national television channels? Is this type of definition advisable when Spanish enterprises are participating in the construction and launching of new satellites and when cable television is just around the corner?

[Answer] The law that regulates the concession of private television channels is not going to define the number. Spain is part of two international satellites organizations: INTELSALT which is international; and EUTELSAT which covers Europe. We have a 4.6 percent share in these organizations. The signatory of these agreements, by government decision, is Telefonica. This means that Spain is part of the satellite world. Television Espanola is seen by satellite in the Canary Islands. One satellite carrier, INTELSAT V, is rented by Telefonica. Telefonica has also rented one television channel on the next EUTELSAT sent up by Arian. That rental is going to cost about 400 million pesetas per year. That is the third possibility for a private television channel.

[Question] How long will the law on private television be?

[Answer] The law will be very simple and very short. It will only regulate the basic aspects of this situation.

[Question] How many articles?

[Answer] About 17.

[Question] Will it be an organic law?

[Answer] Yes, it has to be an organic law because there have been two decisions by the Constitutional Court on private television that state very clearly that our Constitution permits private television. It must be regulated by an organic law since it involves freedom of expression.

[Question] Will there be concessions or licenses for private television?

[Answer] The legal way to obtain a private television channel will be "a concession" and not a "license." Throughout Europe, television is understood as an essential public service under the state. The way to grant that essential public service is through concession, not licenses which is the system in the United States.

[Question] What are other basic aspects of the new law?

[Answer] One of the basic conditions in order to obtain a concession for a private television channel will be to be a Spaniard. This is a basic principle that is followed for public services in all countries although there is the possibility of foreign investment in production, etc.

[Question] Does the law establish a required percentage for Spanish production? If so, what?

[Answer] It introduces the principle that there will be a minimum percentage for national production. However, the specific percentage--probably 50 percent of the programming--will not be in the law but in the decrees and regulations that develop it.

[Question] Does it contain limitations on the broadcast schedule? Will it establish a maximum amount of advertising?

[Answer] No, there will not be any limitation of the broadcast schedule. Any maximum amount of advertising per broadcast hour must be generous. I think a maximum of 14 minutes of advertising per broadcast hour has been discussed. Remember, the average amount of advertising on Television Espanola is not even 7 minutes per hour. In any case, the law will be broad enough so that it does not limit any possibility for the present or the future. It will be a basic framework, basic enough to have a future and last many years.

7717
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SWITZERLAND

SWISS PTT CONSIDERING VIDEOTEX, REJECTING FRENCH MINITEL

Paris ZERO UN INFORMATIQUE in French 10 Feb 86 p 46

[Article by Thierry Combe: "The Ordinance Draft on the Fire"]

[Text] Rejected repeatedly, will the Swiss Videotex soon see the light of day? At the present time, an ordinance draft attempts to satisfy everyone. During the first general assembly of the Association of Videotex Agencies and Services (AASV), which represents the professional services on the Swiss market, this draft was widely discussed.

The president of AASV, P. Klugl, opened the discussion by indicating what he considers as obstacles to the birth of the Swiss Videotex: "The demand for these Videotex services is being underestimated in Switzerland, and while no one wants to block progress, they fear it." Other negative factors: "PTT's prudent waiting policy, whose commercial policy is not always judicious. And lastly, the technology remains too complicated and generally too expensive." Responding to these arguments, R. Trachsel, director of PTT's Remote Computer Department, declared that "it is inconceivable for Switzerland to deprive itself of Videotex." The debate continued with a methodical dissection of the ordinance draft, a text which should assure a change of the present law regulating telegraph and telephone correspondence, which dates to 1922, to a new legislation which should become effective in 1991. Far from achieving unanimity among the interested parties, it provides interesting indications of the the Swiss PTT strategy about Videotex and telecommunications in general.

The first attitude is defensive, notably against the French Minitel. In the portion of its text devoted to commentaries, the ordinance draft indicates that "Teletel is not compatible with CEPT requirements." In addition, the Swiss PTT denounces "French enterprises which through aggressive publicity, seek to implant their system in Switzerland. If a public service is not soon established in Switzerland, the use of the French Minitel, compatible only with Teletel, threatens to spread in French-speaking Switzerland on a private basis; we would then have in Switzerland two parallel concurrent systems which would be incompatible with each other. It is in the national interest to prevent such a situation."

There is Danger at Home and Foreigners Have No Lessons to Teach to the Swiss PTT

In short, there is danger at home and foreigners have no lessons to teach to the Swiss PTT, which has selected the CEPT standard used by the Germans for their Bildschirmtext, "the only one suitable for our multilingual country," the draft indicates (it is true that this feature seems to be overlooked on the other side of the Sarine).

Although it denies it, the PTT wants to maintain some control on Videotex and its applications. For instance, only "data-circuit terminating equipment accepted by the PTT enterprise" can be used (Minitel was endorsed a year ago). A heavily debated point was the slowness of the ratification process for new equipment, which causes further delays.

Lastly, an extensive polemic is created by the question of private Videotex service independence, against PTT services. The draft commentaries point out that the latter "concern not only the Videotex service of the PTT enterprise, but private Videotex services as well." They go on to say: "The PTT exercises no control on information. The ordinance describes the information which is not accepted (Article 5); namely, illegal information .... which infringes on morals or public affairs, which is deceptive or has the nature of unfair competition, as well as that which includes publicity which is not perceivable as such."

As we can see, while the discussion wants to ease up, the articles of the ordinance draft are no less vague. The hesitation is even more perceptible in a statement of the consequences that would be engendered by the application of an overly strict legislation. If Switzerland does not take the initiative in research and training, stresses the ordinance draft, "the result would be an exodus of data banks and their associated knowledge. In the long term this would be harmful."

It is on 1 July that the public Videotex service will finally see the light of day, because the time has come, in Mr Klugl's words, that "after years of tests, the Videotex light change from yellow to green."

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CSO: 5500/2617-A

END

JPRS-TTP-86-010

17 APRIL 1986

Worldwide Report

TELECOMMUNICATIONS POLICY, RESEARCH, AND DEVELOPMENT

FBIS FOREIGN BROADCAST INFORMATION SERVICE

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17 April 1986

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PEOPLE'S REPUBLIC OF CHINA

POSTS, TELECOMMUNICATIONS MINISTRY CORRECTS STYLE

OW170211 Beijing XINHUA Domestic Service in Chinese 1556 GMT 14 Mar 86

[By RENMIN RIBAO reporter Zhang Guorong and XINHUA reporter Zhang Jinsheng]

[Excerpts] Beijing, 14 Mar (XINHUA)--The Ministry of Posts and Telecommunications today held a telephone meeting of national posts and telecommunications departments to relay and implement the important directive recently issued by the Secretariat of the CPC Central Committee on posts and telecommunications work and make preparations to immediately launch activities of correcting the work style of post offices and telecommunications bureaus by consolidating the ranks and dealing blows at lawbreaking in China's posts and telecommunications departments.

The activities aim at markedly improving postal and telecommunications workers' political and vocational qualities within 2 or 3 years so that the people's posts and telecommunications can restore their reputation to an all-time high.

At the telephone meeting, Yang Taifang, minister of posts and telecommunications, relayed the Central Secretariat's recent important directive on posts and telecommunications work. The Secretariat pointed out: Since the 3d Plenary Session of the 11th CPC Central Committee, the posts and telecommunications departments have shouldered a heavier and heavier task under the new circumstances of opening to the outside world and invigorating the domestic economy. They have done much work to promote socialist material and spiritual civilization. Since the reshuffle of the ministry's leading body, the correct guiding ideology of vocational work has been followed through party rectification, and remarkable results have been achieved.

Analyzing the main problems existing in the ranks of postal and telecommunications workers today, Yang Taifang said: Just as the Central Secretariat pointed out, our postal and telecommunications work still fails to meet the needs in the development of the objective situation. This is because our capacity in telecommunications is inadequate, our workers' political and vocational qualities are poor, some of our personnel have no clear concept of the legal system and their sense of discipline is poor, and a few of them even neglect their duties, break the law, and commit crimes. As a result, our telecommunications service is poor, and accidents in telecommunications have continuously occurred. Both the masses' interests and the posts and telecommunications departments' prestige have been seriously damaged. The public is dissatisfied and disgusted with all this.

Yang Taifang emphatically pointed out: Through the activities of checking the telecommunications service and consolidating the ranks, we must sum up the experience of model workers and commend and award them; we must distinguish between different types of mistakes made by workers whose performance is poor and handle their cases accordingly. Train those who should be trained; criticize those who should be criticized, and punish those who should be punished. It is particularly necessary to deal relentless blows to law breakers and criminals. We must never be soft on them or appease them. It is necessary to discharge a number of serious law breakers and criminals and bring them to justice. It is necessary to replace a number of leading cadres who have seriously neglected their duties. During the activities of checking the service, it is also necessary to clear up long-pending cases, find out where the shoe pinches, and handle consumers' appeals.

/12858
CSO: 5500/4152

GUANGZHOU-ZHANJIANG-HAIKOU MICROWAVE COMMUNICATIONS SYSTEM OPENS

HK171151 Haikou Hainan Island Service in Mandarin 0400 GMT 15 Mar 86

[Excerpts] The inauguration ceremony of the Guangzhou-Zhanjiang-Haikou 1,800 circuit microwave communications system, a project organized and built by the Guangdong Provincial Posts and Telecommunications Management Bureau, was simultaneously held in Haikou, Zhanjiang, Guangzhou and Hong Kong yesterday.

Kuang Ji, Guangdong Provincial vice governor; Yang Jie, former vice minister of Posts and Telecommunications; (Hu Chaoyu), vice chairman of the Guangdong Provincial Economic Commission; Meng Qingping, principal responsible person of the Hainan administrative Regional People's Government; (Yuan Jiawen), director of the Provincial Posts and Telecommunications Management Bureau; and responsible comrades of Hainan Administrative Region, the Hainan Military District, the Hainan Li and Miao Autonomous Prefecture, and all counties and cities in the region, attended the inauguration ceremony in Haikou.

Mr Sharp, chairman of the Cable and Wireless Company of Britain, and Mr Takahara, representative of Japan's NEC Company, were also invited to attend the inauguration ceremony in Haikou.

(Yuan Jiawen), director of the Provincial Postal and Telecommunications Management Bureau, first delivered a speech to introduce the construction and significance of the project. He said: the Guangzhou-Zhanjiang-Haikou 1,800 circuit microwave communications system starts from Guangzhou, travels through 8 counties in Zhaoqing, Maomin, and Zhanjiang, and ends in Haikou. The total length of the system is 595 kilometers, the longest microwave communications line in the province. The completion of the system indicates a new advancement in the province's telecommunications development.

In their speeches Vice Governor Kuang Ji, Yang Jie and Meng Qingping warmly hailed the completion of the Guangzhou-Zhanjiang-Haikou 1,800 circuit microwave communications system.

In their speeches Mr Sharp and Mr Takahara expressed satisfaction over the friendly and successful cooperation between the two parties.

Vice Governor Kuang Ji, Meng Qingping, and Mr Sharp respectively, used the direct dialing telephone system installed at the site of the inauguration ceremony, to talk to Yang Taifang, minister of Posts and Telecommunications; (Xu Zhi), deputy secretary general of the Guangzhou City People's Government; and Mr Wilson of the Hong Kong Cable and Wireless Company.

/12858
CSO: 5500/4152

PEOPLE'S REPUBLIC OF CHINA

CONTEXTUAL INFORMATION ANALYSIS OF REMOTE SENSING IMAGERY

Beijing ZIDONGHUA XUEBAO [ACTA AUTOMATICA SINICA] in Chinese Vol 11 No 4, Oct 85 pp 413-415

[Article by Wang Chengye [3769 2052 2814] of the Institute of Automation, Chinese Academy of Sciences, and Gong Xiao [7895 2556] of the Space Science and Technology Center, Chinese Academy of Sciences]

[English Abstract] A contextual model is described and analysed. Comparison is made between its results in classification of remote sensing image data and the results of classification based on spectral information only. Experiments justify that the contextual method provides extreme advantages. (Paper received 19 September 1983.)

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/9365
CSO: 4009/1041

PEOPLE'S REPUBLIC OF CHINA

CORRECTION OF LATERAL OFFSET WITHIN LANDSAT MSS IMAGERY

Beijing ZIDONGHUA XUEBAO [ACTA AUTOMATICA SINICA] in Chinese Vol 11 No 4 Oct 85 pp 358-363

[Article by Wang Tianxi [3769 1131 4406] of the Scientific Research Institute for Petroleum Exploration and Development, Beijing]

[English Abstract] A computer technique for correcting lateral offsets within Landsat MSS imagery is introduced. These offset lines were produced by an apparently random line-start problem in the Landsat MSS sensor. Two values are needed to correct the offset: (1) the numbers of the line containing offset, and (2) the number of pixels of offset in the lines. The determination of these values is time-consuming by visual inspection on the display. Therefore, a computer program which makes use of correlation techniques or Sequential Similarity Detection Algorithms (SSDA) has been developed to calculate the above two values automatically, and then perform the required line shifts to correct the offset. (Paper received 18 August 1983.)

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CSO: 4009/1041

PEOPLE'S REPUBLIC OF CHINA

BRIEFS

OPTICAL FIBER CABLES--Chengdu, 8 Mar (XINHUA)--Two kinds of optical fiber cable for communications purposes were developed by the No 5 Research Institute of the Ministry of Posts and Telecommunications and passed the ministry's examination today. They are 24-core cable for optical communications within a city and 12-core cable for long-distance optical communications. Also passing the examination were connecting devices for these cables. Development of these items were listed as key technological research projects in the Sixth Five-Year Plan. [Summary] [Beijing XINHUA Domestic Service in Chinese 1530 GMT 8 Mar 86 OW] /12858

OPTICAL FIBER CABLE BEING LAID--Guangzhou, 11 Mar (ZHONGGUO XINWEN SHE)--The laying of China's first optical fiber long-distance telecommunications cable, the Guangzhou-Foshan optical fiber long-distance telecommunications cable, started recently. It is expected to be completed and put into use in the second quarter of this year. The total capacity of the Guangzhou-Foshan optical fiber long-distance telecommunications cable is 9,600 lines. The main equipment and cable, which have been imported, are of the advanced level of the eighties. This project is the "major artery" connecting the telecommunications network of the Zhuijiang Delta area. After the project is completed and put into operation, it will not only increase the telecommunications capacity between Guangzhou and Foshan but also lay a good foundation for setting up a digital telecommunications network in the Zhujiang Delta area. [Text] [Beijing ZHONGGUO XINWEN SHE in Chinese 1234 GMT 11 Mar 86 HK] /12858

SATELLITE TELEPHONE CIRCUIT TRIED--Beijing, 19 Mar (XINHUA)--Beijing's satellite communications ground station opened its civilian communications circuit on a trial basis today. Some national minority comrades from the frontier regions working in Beijing made telephone calls to their relatives in Urumqi, Lhasa, and Kunming via the communications broadcast satellite launched by China itself. The voices heard during the telephone conversations were as clear as those in local telephone calls. When Gulanbaner, an Uygur girl studying in the cadres training class of the Central Nationalities College, picked up the telephone, she could immediately tell that the voice at the other end was that of her mother. Gulanbaner said excitedly: "Satellite communications has shortened the distance between Beijing and the frontier regions." The experimental communications and broadcasting satellite was launched on 1 February this year. [Text] [Beijing XINHUA Domestic Service in Chinese 1753 GMT 19 Mar 86 OW] /12858

CSO: 5500/4152

GERMAN DEMOCRATIC REPUBLIC

BRIEFS

TRANSMISSION VIA SATELLITE COMPUTER--Jena, 26 Mar (ADN)--A continual system of information transmission from the work stations of design engineers via a satellite computer (intermediate computer) to the electronic data processing installation of the data center has been set up at the Carl Zeiss Jena combine (Gera Bezirk). The principle of distributed data processing which has been implemented, has proved successful in the design of optical systems for precision instrument construction. Scientists and engineers active in this field were given nine new interactive work stations in 1985. They develop and design optical components--which must meet the highest standards--on the screen in a dialogue with the computer. Apart from higher product quality, the Jena engineers also achieve considerable time savings. While the design of a microscope lens once took roughly 440 hours, engineers now produce a design in a third the time on the graphic display unit. [Excerpts] [East Berlin ADN International Service in German 1052 GMT 26 Mar 86 LD] /12858

CSO: 5500/3006

ERICSSON PHONE EXCHANGES TO GUATEMALA, MEXICO, ECUADOR

Copenhagen BERLINGSKE TIDENDE in Danish 28 Feb 86 p 6

[Article by Lise Tajik: "Ericsson Orders Worth $108 Million"; first paragraph is BERLINGSKE TIDENDE introduction]

[Text] The public telecommunications agencies in Guatemala, Mexico and Ecuador have ordered telecommunications equipment worth $108 million from Ericsson. The equipment will be manufacturered at Ericsson's factories in Mexico, Italy and Sweden.

The Swedish telecommunications and electronics firm L. M. Ericsson has obtained orders totaling $108 million for telephone exchange equipment and transmission systems from Guatemala, Mexico and Ecuador.

Mexican Orders Worth $67 Million

Telemex, the Mexican public telecommunications agency, has ordered digital transmission equipment and a parallel exchange worth a total of $67 million from the company's Mexican subsidiary, Teleindustria Ericsson SA.

Most of the equipment will be produced at Ericsson's factory in Mexico and delivery will start this year.

The biggest single order, worth $30 million, came from Guatel, the Guatemalan telecommunications agency. The contract involves several local digital-AXE exchanges with long-distance customer units, transmission equipment and an operation and maintenance center. These units will be delivered in the second half of this year and are being produced by Ericsson's Italian subsidiary, Fatme.

Some 13.7 Million Lines

Ietel, the telecommunications agency in Ecuador, has placed two orders worth $11 million for three local AXE-digital exchanges that will be manufactured in Sweden and for equipment to expand eight Ericsson parallel exchanges. This will be produced by the company's Mexican subsidiary.

Ericsson's sales of AXE exchanges are now up to 13.7 million lines--772 exchanges in 64 countries. The company claims to have 9 percent of the world market for telecommunications equipment. But in Latin America the company's market share is around 50 percent.

6578
CSO: 5500/2634

BRAZIL

MINISTER ANNOUNCES EXPANSION PLANS FOR SECTOR IN 1986

Sao Paulo O ESTADO DE SAO PAULO in Portuguese 26 Feb 86 p 15

[Text] Brasilia--The goals to be achieved by the communications sector during 1986, estimated at 18 billion cruzeiros, were announced by Minister Antonio Carlos Magalhaes during the commemoration of the 19th anniversary of the establishment of the Ministry of Communications. The ministry's program gives priority to rural telecommunications, the contracting of new telephone terminals, and the expansion and qualitative improvement of the Posts and Telegraphs Company; it also provides for strengthening the operational structure of the Amazon Region transmitters in order better to serve the population of that region.

Minister Antonio Carlos Magalhaes defined the guidelines for the telecommunications sector based on the great growth shown by his sector, which in 1985 alone reached 16 percent and contributed to Brazil's establishing an economic growth rate of 7.5 percent last year. The research and development area also presents a substantial growth of investments, which are estimated at 1 trillion cruzeiros this year compared to the 153 billion invested in 1985.

In the area of public telecommunications, 110,000 isolated rural properties will be served, which represents an expansion of 20 percent, increasing from 8,558 to 10,388 the number of places in the country that have telephone service. The program anticipates that the number of public telephones, both in booths and open-air shells, will show an increase of 67,000, going from 106,000 to 173,000 installations by the end of the year. The number of urban residences served by telephone will also increase considerably, going from the current 4.95 million to 5.5 million.

The number of telephones installed in the country will expand 8 percent compared to 1985, while telex terminals should increase 15 percent. The program also calls for maintaining operational and productive efficiency, attaining the rate of 12.8 percent employees per terminal installed, a proportion that is equivalent to the best in the world. The Ministry of Communications program envisions the transfer to national industries of the technologies of fiber optics, lasers, equipment for the transmission of television via optic fibers, programmable data analyzer for data networks, and satellite stations.

The postal services will serve all Brazilian municipalities with the establishment of new branches and the replacement of present post offices. In this sector, priority will be given to rural areas, which will be served by 1,400 new post offices, in addition to the establishment of an air-mail network in the Amazon Region lending impetus to that service. The neediest areas of the large urban centers will receive more efficient service with the establishment of 100 community post offices. The automation systems of branches in the principal states, such as Rio de Janeiro, Sao Paulo, Minas Gerais, Bahia, Parana, Pernambuco, Rio Grande do Sul and Brasilia, will also be expanded.

The TV-radio broadcasting system will have five more satellite-TV receiving stations in military units in the Amazon Region and in Mato Grosso do Sul. The programming of TV-Nacional will be revised so that solid links will be established with the cities and regions reached by its transmissions. The operational structures of the Amazon broadcasting stations will also be strengthened, providing better service to the population. In this sector, the program also provides for consolidating the radio network formed for transmission of "Jornal Nacional," which is currently retransmitted by 123 stations throughout the country.

The ministry's program provides for the implementation and consolidation of the new regional directorates of the National Telecommunications Department (DENTEL), in addition to the study and proposal of new criteria for granting private radio and television channels.

Minister Antonio Carlos Magalhaes stressed the importance of the launching of the Salt 2 satellite, which will provide service not only to Brazil but also to neighboring countries, and advocated a democratic Latin America in terms of the communications media. Magalhaes also emphasized the importance of human labor, without which it would be impossible to achieve the positive results that are being attained, and admitted the possibility of the definition of other goals by the end of the year.

8711/12859
CSO: 5500/2031

SECOND TELECOMMUNICATIONS SATELLITE LAUNCHED

PA290114 Paris AFP in Spanish 0035 GMT 29 Mar 86

[Excerpts] Kourou, French Guiana, 28 Mar (AFP) -- The second Brazilian telecommunications satellite, Brasilsat S-2, was placed today in orbit on the 17th launch of the European rocket Ariane III, an improved model of the Ariane. It was launched from the Kourou Space Center.

Brasilsat must function for 8 years in a geostationary orbit (altitude 36,000 km), which means that it will give the impression of being motionless on a vertical path over the Brazilian-Colombian border (70 degrees longitude west, over the Equator).

This satellite has 24 retransmission channels, equivalent to 12,000 telephone lines or 24 television channels. Brasilsat S-2, which will provide television, telephone, telex, and data transmission services, looks like a huge drum. It weighs 671 kg in orbit and 1,140 kg on earth.

The first such satellite was launched by Ariane on 8 February 1985. The operational center in charge of watching the satellites for as long as they exist, is in Guaratiba, near Rio de Janeiro. The two Brasilsats were built by the Canadian enterprise Star Aerospace Limited. They belong to the Brazilian Telecommunications Enterprise, a Brazilian public enterprise responsible for the development and work of telecommunications services in that country.

The U.S. satellite, Gstar-2, which was put in orbit 2 minutes before the Brasilsat S-2, is the fifth satellite of the GTE Spacenet Society which has been transported by the European rocket since 1984. Its 16 channels can be rented to enterprises for visual conferences. They can also be used for retransmitting information.

/9365
CSO: 5500/2034

COMPUTER GROUP PLANS RESPONSE TO U.S. SURVEY

PY190014 Rio de Janeiro O GLOBO in Portuguese 17 Mar 86 p 17

[Text] Brasilia -- The informatics law will not be investigated by the U.S. Commerce Department alone. Now the matter will also be discussed through diplomatic and political channels, since the U.S. State Department has decided to perform a confidential market survey. This was reported by the managers of the Brazilian Computer and Peripheral Equipment Manufacturer's Association [Abicomp], who on 14 March met with Science and Technology Minister Renato Archer and with Foreign Ministry General Secretary Paulo Tarso Felxa de Lima for an initial evaluation of this new situation. According to Abicomp President Antonio Pimentel Besquita, "the situation is not good for Brazil." However, he believes that the difficulties will be resolved.

When President Ronald Reagan first requested an investigation of the informatics law based on Article 301 of the Trade Act (U.S. Trade Law), alleging that the Brazilian Government is practicing protectionism, Abicomp started to move to defend its interests in the United States, as a consultant before the USTR [as published] (Department of Commerce). The process will end by September, and until then Abicomp is trying to find all the mechanisms it can to prevent any retaliation against its interests by the U.S. Government. "The U.S. Government is very strong and it knows how to express its force," Mesquita said.

/9365
CSO: 5500/2033

BRAZIL

BRIEFS

USSR, EAST EUROPE TO PURCHASE FIBER OPTICS--The Brazilian Government through Itamaraty is negotiating with East European countries a 4-year export contract for 1,500 km of fiber optic components manufactured by Telebras (Brazilian Telecommunications, Inc). The sale of 400 kilometers of submarine fiber optic cable over a 2-year period to the Soviet Union has already been contracted by the ABC-TAL company. The fiber optic cable is more reliable and cheaper than copper telephone wire. [Text] [Rio de Janeiro O GLOBO in Portuguese 29 Mar 85 p 15 PY] /9738

CSO: 5500/2037

IMPROVEMENTS IN RADIO, TV SIGNALS UNDERWAY

FL290140 Havana Television Service in Spanish 0000 GMT 29 Mar 86

[Text] As mentioned in the Third party Congress main report, the state wants to improve the quality of the country's radio and television broadcasts. The following report discusses the matter.

The fields of radio and television are included in the Communications Ministry's investment plans aimed at improving signal quality so they can reach all corners of the country.

Last year, 40 projects were started and they are expected to be completed during this year's first 6 months. Radio Rebelde and Radio Progreso will cover the entire national territory and each provincial station will cover all its municipalities. Old towers, as well as transmitters and television signal relay towers will be replaced and others will be installed in required areas. A lot of this equipment will be manufactured locally. Low-powered relay towers will run with solar batteries, thus saving energy.

Work is being done to create a channel with special programming for Guantanamo and the Isle of Youth and a third channel is being considered for the capital and Havana Province. There are no technical possibilities for the rest of the provinces. Broadcasting television programs via satellite will be the greatest contribution in this field during the 5-year period.

/7051
CSO: 5500-2035

AFGHANISTAN

BRIEFS

TELEPHONE EXCHANGE INAUGURATED--The extention of the automatic telephone exchange at Shahr-e Naw, with a capacity of 2,800 lines, was inaugurated today by Mohammad Aslam Watanjar, member of the PDPA Central Committee Politburo and minister of communications. This exchange is part of the second telecommunications project after the Khayrkhana Mena and Microrayon automatic telephone exchanges. The automatic telephone exchange at Shahr-e Naw, which cost more than 3.3 million German Marks and 16.5 million afghanis, includes the areas of Taymani Wat, Wazirabad, Qala-e Musa, Shahr-e Naw, Qala-e Fatollah, and Kharta-e Parwan. At the same time as the inauguration of the abovementioned exchange, 40 coin-operated telephones were brought into operation in these areas. A source of the telephone department of the Ministry of Communications said the following: [Begin recording] The expansion of Shahr-e Naw automatic telephone exchange, which is part of the second telecommunication project, should have been put into operation by the experts of Siemens company of the FRG. However, due to its hostile stance against the DRA, it abandoned the project while still incomplete. Afghan engineers decided to make the project operational themselves. [end recording] [Excerpts] [Kabul Domestic Service in Dari 1530 GMT 13 Mar 86] 12228

CSO: 5500/4729

BANGLADESH

BRIEFS

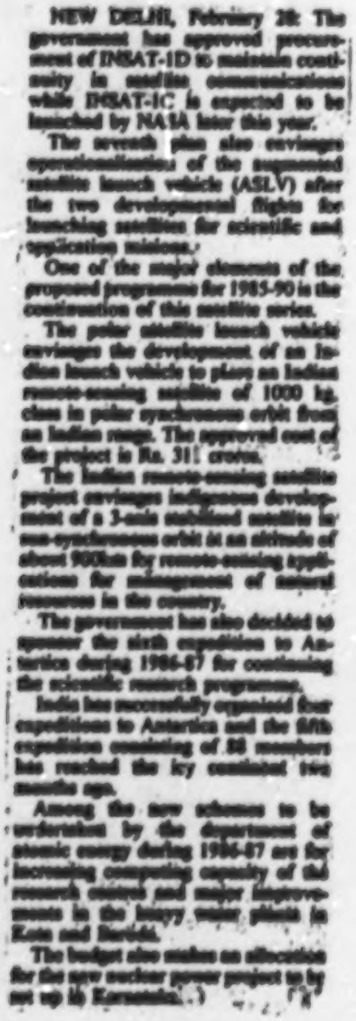
NATIONAL INFORMATICS BODY—The Government has constituted an 18-member National Coordinating Committee for Regional Informatics Network for South and Central Asia (RINSCA) headed by Dr A M Sharafuddin, Secretary, Science and Technology Division, according to an official handout. The Committee comprises representatives of concerned Ministries, information media and other organisations. The Bangladesh Bureau of Educational Information and Statistics (BANBEIS) of the Ministry of Education will be the national focal point for RINSCA. [Text] [Dhaka THE NEW NATION in English 12 Feb 86 p 8] /13104

CSO: 5550/0097

INSAT-1D PROCUREMENT APPROVED, OTHER SATELLITE PLANS

Bombay THE TIMES OF INDIA in English 1 Mar 86 p 16

[Text]



NEW DELHI, February 28: The government has approved procurement of INSAT-1D to maintain continuity in satellite communications while INSAT-1C is expected to be launched by NASA later this year.

The seventh plan also envisages operationalisation of the augmented satellite launch vehicle (ASLV) after the two developmental flights for launching satellites for scientific and application missions.

One of the major elements of the proposed programme for 1985-90 is the continuation of this satellite series.

The polar satellite launch vehicle envisages the development of an Indian launch vehicle to place an Indian remote-sensing satellite of 1000 kg. class in polar synchronous orbit from an Indian range. The approved cost of the project is Rs. 311 crores.

The Indian remote-sensing satellite project envisages indigenous development of a 3-axis stabilised satellite in sun-synchronous orbit at an altitude of about 900km for remote-sensing applications for management of natural resources in the country.

The government has also decided to sponsor the sixth expedition to Antartica during 1986-87 for continuing the scientific research programme.

India has successfully organised four expeditions to Antartica and the fifth expedition consisting of 88 members has reached the icy continent two months ago.

Among the new schemes to be undertaken by the department of atomic energy during 1986-87 are for increasing computing capacity of the research centres and major improvements in the heavy water plants in Kota and Baroda.

The budget also makes an allocation for the new nuclear power project to be set up in Karnataka.

/9274
CSO: 5550/0098

BRIEFS

POWER FOR TRANSMITTERS--New Delhi, March 3. Doordarshan has placed an order with the Central Electronics Limited under the Department of Scientific and Industrial Research, for solar photovoltaic power systems to operate television transmitters being set up in remote areas. The initial order is for 17 transmitters valued at Rs. 35 lakhs. These systems have been designed and engineered indigenously by the CEL in close collaboration with the Gujarat Communications and Electronics Limited in a record five months. These will enable the very low power TV transmitters to operate completely unmanned and be controlled remotely from a central station. The CEL now has an installed capacity to make one MW of solar modules and cells a year. The capacity will increase to two MW by the end of this month, when the second production line, now under commissioning, goes into commercial production. This will make the CEL not only the largest solar photovoltaic manufacturer in the developing country but third largest manufacturer in the world. The solar power systems, which the CEL has designed and has been making now, cover a wide range for use in very low power TV transmitters, offshore oil platforms, rural telecommunication systems, flood forecasting systems and defence systems, irrigation pumps, street lights for villages, community TV sets and specialised refrigerators. [Text] [Madras THE HINDU in English 4 Mar 86 p 11] /9274

CSO: 5550/0099

NEPAL

BRIEFS

DANISH TELECOMMUNICATIONS EQUIPMENT BID--The government of Nepal has asked Denmark to participate in a big international project that will supply the kingdom on the southern flank of the Himalayas with modern telecommunications. Foreign Minister Uffe Ellemann-Jensen (Liberal) therefore asked the Folketing Finance Committee on Wednesday to grant a request to give Nepal, which is one of the world's poorest countries, an interest- and installment-free loan of 115 million kroner. The condition is that the money must be spent on purchasing Danish equipment, including telephone cables. The total amount also covers the purchase of dairy and slaughterhouse equipment. [Text] [Copenhagen BERLINGSKE TIDENDE in Danish 18 Mar 86 p 10] 6578

CSO: 5500/2634

SOUTH AFRICA

BRIEFS

SABC TO ACQUIRE SATELLITE CHANNEL--Cape Town--The SABC is to acquire the use of a satellite channel on July 1, Dr Brand Fourie, chairman of the SABC Board, announced here today. He said the satellite would enable the SABC to transmit radio and television programmes to remote areas. A total of 19 receiving stations were planned to facilitate transmissions. He said the SABC was going through "difficult financial times", but was going its best to overcome these problems. [Text] [Johannesburg THE STAR in English 12 Mar 86 p 1]
/9274

CSO: 5500/54

SATELLITES SEEN SOON PERMITTING NORDIC TV EXCHANGE PROJECT

Helsinki HELSINGIN SANOMAT in Finnish 9 Feb 86 p 7

[Text] We may get to enjoy Norwegian television programs as soon as next fall. The Nordic telecommunications agencies, which have been considering the technical aspects of an exchange of programs, are of the opinion that the countries in question might view three or four of their neighbors' television channels.

The joint telecommunications agency project is based on the use of telecommunications satellites that are already orbiting in space. Suitable channels are available in the international Intelsat and Eutelsat systems.

Swedish television programs transmitted via satellite are already being viewed in the Norwegian cable networks.

The joint Nordic Nordprog programs could be promoted in those cable television and common antenna networks in which there is room for additional channels. The Post and Telecommunications Administration is of the opinion that by 1990 a third of the households in Finland will be reached by these programs.

Viewing the new channels incorporated into the cable network would cost from 7 to 11 markkas a month. Payment of royalties may also be required to view the programs. Agreement on the royalties has not so far been reached.

Tele-X Will Begin in Fall of 1987

Even if the program exchange under consideration by the telecommunications agencies does not materialize, Nordic satellite time will in any case begin within a year and a half. The long-debated joint Nordic Tele-X satellite will begin to transmit television programs in the fall of 1987.

At first, the Tele-X will operate experimentally for 3 years. The first year there will be programs for about 20 hours a week. The satellite has two channels. One will transmit news and programs of current interest and the other cultural, entertainment and sports programs.

The Nordic telecommunications agencies publicly admitted last summer that they were considering an exchange of programs via already orbiting satellites. At that time Post and Telecommunications Administration director Pekka Tarjanne said that the project would not complicate implementation of the Tele-X because two different systems are involved.

Director Tarjanne thought that experience for the Tele-X could be gained from the project.

11,466
CSO: 5500/2624

DENMARK JOINS TELE-X SATELLITE TELEVISION VENTURE

Oslo AFTENPOSTEN in Norwegian 4 Mar 86 p 5

[Article by Odd Inge Skjaevesland: "Will Contribute with Programs: Danish Yes to Scandinavian TV"]

[Text] Copenhagen -- Denmark has now made up its mind to let the other Scandinavian countries get to see Danish television programs. The country will soon be able to receive Norwegian and Swedish television directly and for this reason is not interested in using much money on reruns from the so-called Tele-X satellite. But the Danes will offer the rest of us their own programs, something which it is hoped will strengthen interest in this entire Scandinavian joint television venture.

Conversations AFTENPOSTEN has had with prominent Danish politicians show that they are no longer in doubt as to whether they will let Danish programs become part of the Tele-X joint venture. With this the prayers of the culture ministers of Norway, Sweden and Finland are well on the way to being answered. When they agreed last fall to a trial period of three years, the absence of the Danes was such a big fly in the ointment that intense work was done to involve Denmark again.

Money

But the Tele-X project is expensive, and the Danes still will not promise to pay to take part. But according to what AFTENPOSTEN has learned from the Danish government, the purse strings have not been completely tied again in advance. First the Danes want to agree with the rest regarding what kinds of programs are to be broadcast and what form the broadcasts should have. The Danes' justification for taking part is that the Scandinavian countries should understand one another better.

Few Danes

"I do not think many Danes will view programs from the other countries in Scandinavia if they just come as reruns on the Tele-X satellite," Social Democratic Party Media Spokesman Bernhardt Tastesen says to AFTENPOSTEN.

"In a short time we will be able to see both Norway's TV programs and channels 1 and 2 in Sweden at the same time as these countries' viewers," he relates. This will take place via cable and the so-called Hybrid Network, which can contain a "package" of up to 24 television stations. It is easy to cable Denmark, and with Norwegian and Swedish features on a direct basis there is reason to believe that this will be able to catch on in Denmark.

Barter

Bernhardt Tastesen also speaks for the political majority when he emphasizes that it is of great cultural policy importance that Denmark be part of a Scandinavian program agreement.

"We can well enter into some 'horse trading' and buy several Scandinavian programs for Denmark's countrywide television channel and a possible TV2," Tastesen suggests.

Lack

"An important part of the Scandinavian exchange of television programs would be lacking if Danish features were to be left out," Prime Minister Kåre Willoch said during the general debate yesterday during the Scandinavian Council's meeting in Copenhagen. He attaches great importance to Denmark's taking part. At the same time Willoch expressed happiness about the fact that Norway, Sweden and Finland have agreed to try out direct-broadcast television over the Tele-X satellite.

"Denmark has always been positively disposed toward a Scandinavian joint TV program venture, although we have never been interested in the industrial aspect of the Tele-X satellite," Prime Minister Poul Schlüter stated during the debate. He emphasized that it would be a shame if the Scandinavian TV satellite were not to cover Danish programs.

8831
CSO: 5500/2625

REPORT REJECTS NEED FOR MULTIROLE 'HYBRID' CABLE NETWORK

Copenhagen BERLINGSKE TIDENDE in Danish 20 Mar 86 p 20

[Article by Morten Langer: "Hybrid Network Crumbling"; first paragraph is BERLINGSKE TIDENDE introduction]

[Text] An independent panel sharply criticized the planning of the hybrid cable network following a big hearing. There has been no analysis of need and no socioeconomic calculations and there is very little current interest in the project which will cost over 100 billion kroner.

At the moment the hybrid network is unlikely to get off the ground.

Most TV viewers are willing to pay only small amounts to receive more TV channels over the hybrid network's cable TV and both businesses and private households currently have their communications needs covered by the existing telephone network.

These were the conclusions of a report prepared by an independent panel on the basis of statements from the country's leading experts in the field at a hearing held last week.

The hearing was arranged by the National Social Science Research Council. The central question was whether the planned enormous social investment of 100 billion kroner, the hybrid network, can be regarded as already "dead" or whether it is the way to the information society of the future. There was no clear-cut answer to this question but the independent panel was very critical of the planning that has been done so far.

The report reached the following conclusions:

No one has made a systematic evaluation of the need for a hybrid network in the public sector or in the private business sector.

There is a disparity between what it will cost and what people are willing to pay. Most households are willing to pay only small amounts for more TV and the annual cost of a network hookup, a license to receive Danish TV-1 and TV-2 and three Pay-TV channels is 7,000 kroner per family.

It is strange that no calculations have been made about what the investment of 100-200 billion kroner would mean for the national economy and whether this would be a sensible investment.

The planned 37-town experiement involving new information technology that was intended to show what the local community and its citizens can use it for in practice is short of funds and needs more economic support.

The panel also said that the hybrid network would provide less all-round TV coverage even though the number of TV channels would increase. Experience from other countries shows that increased TV consumption primarily involves more entertainment.

"If telephone companies continue to be allowed to determine which TV channels will be provided for antenna associations, the transmissions will be nothing but entertainment. So the law should be changed. The panel agreed on that point," said the chairman of the panel, Dr Per Buch Andreasen.

The proposed amendment to the law calls for setting up a broad program selection board to ensure a wide choice of programs on cable TV and to protect the rights of the minority, the people who want to see other things besides pure entertainment.

"While everyone is concerned about the structure of the Radio Council and the management of a second TV channel, people have totally forgotten about culture in the context of the hybrid network. That is undoubtedly because this comes under the heading of business policy," said Per Buch Andreasen.

6578
CSO: 5500/2634

FINLAND

TELECOMMUNICATIONS SEEN SUITABLE AREA FOR DEVELOPMENT AID

Helsinki HELSINGIN SANOMAT in Finnish 8 Mar 86 p 2

[Article by Matti Kuosmanen: The author is a planning engineer in the Radio Department of the Post and Telecommunications Administration. He has participated in Finnish development aid projects in the field of telecommunications technology in several underdeveloped countries]

[Text] The development aid activities Finland engages in in the field of telecommunications technology are still very new. The first rather small projects were launched in 1980 when Finland started to provide aid for the Sri Lanka Telecommunications Administration, among others, with various missions involving the planning of telephone networks.

Finland at present has several telecommunications technology aid projects pending with countries that traditionally receive aid from us. Activities have been expanded and Finland has made an effort to actively participate in big projects too, in which several funding countries and also some international funding organization possibly participate. The recipient country also participates in the project according to its abilities and bears responsibility for carrying out the project.

There Are No Telephones

Every Finn takes it for granted that the Finnish telecommunications network functions reliably and that services are readily available. The thought does not enter our minds how life would change if there were no telephone services. This is, however, an everyday occurrence for many citizens of underdeveloped countries.

The telephone situations in Finland and the underdeveloped countries can be compared with one another by examining the telephone densities of these countries. Data on the telephone densities of those countries with which Finland is participating in development aid telecommunications technology has been assembled in the accompanying table. Each country's annual per capita gross national product has also been added to the table.

Compared to Finland's telephone density, the densities in the underdeveloped countries that are shown in the table are especially low. The telephone densities of Bangladesh and Nepal are the lowest in the world. Among the world's capitals, Helsinki ranks third highest after Washington and Stockholm in terms of telephone density.

The need for telephones in the underdeveloped countries is so great that the number of would-be subscribers on waiting lists is roughly the same as the number of telephone lines in use. The typical average volume per subscriber (telephone line rate of use) is so high that the old telephone centrals and line network now in use cannot handle the current volume. Because of this, it is difficult to get through to the central during business hours.

The old centrals and network cannot be expanded and breakdowns are frequent since the equipment is being operated in the final stage of its lifetime. The only way to remedy the situation is to plan and build a new network with its centrals and lines to meet current and future demands in terms of capacity as well as quality.

The poor situation is in practice evident, for example, in the cities, in that they have not been able to add new subscribers to the network in perhaps several years now. On the basis of surveys, we know that health stations, doctors and police stations as well as farmers, industrialists and merchants, among others, are often on the waiting list. The shortage of telephones causes great inconveniences and inefficiency in the everyday lives of the inhabitants when we further take into account the fact that moving from one place to another, particularly in the big cities of the underdeveloped countries, takes a lot of time because of constant traffic jams from morning til night.

Nepal Project

A telephone network may be lacking altogether in out-of-the-way districts and small rural towns and long-distance telephone lines to the capital may be unreliable and inadequate. In Nepal, for example, there are rural towns whose only long-distance link with the capital is a short-wave radio that operates from a telephone station in connection with the post office. Lines are often too long and equipment obsolete, so that lines are only occasionally in operation. Some days too, one cannot reach the capital at all during business hours. Since, in addition, many towns lack a real road link with the capital, urgent matters are sometimes left unattended to. In Nepal there are also villages isolated in the mountains, the nearest telephone to which is an 80-km hike away.

Nepal's fourth telephone project, which is right now being launched and in which Finland is also participating, will noticeably improve the country's telephone situation. They will be able to provide about 4,000 villages with a telephone station at which there is at least one phone for the village residents. Rural town centrals and line networks will be overhauled and long-distance lines decisively improved. The longest walk to the nearest telephone will be shortened to 8 km.

All areas of human activity and thus also all citizens of underdeveloped countries will benefit from the improvement of telephone services in the underdeveloped countries. If we compare telephone services with physical communication alternatives, telephone services are the most advantageous from the standpoints of both investments and energy consumption, and also in terms of effective use of time.

When there are sufficient telephone services, production activities can be expanded and productivity increases considerably in, for example, an underdeveloped country's outlying districts. The importance of telephone services is accentuated in underdeveloped countries since highway and rail networks, among other things, are inadequate or do not exist at all and since liquid fuel and vehicle prices are high.

Affects Administration

In some underdeveloped countries administration is being decentralized to make development of outlying districts more effective. Officials support agriculture involving the village, small and cottage industries and commerce. Decentralization of administration, however, demands adequate telephone services for the use of central and local government officials to coordinate and keep track of development activities. And later, when economic activity increases in rural areas, they need more effective and versatile telephone technology services than before.

Underdeveloped countries are exposed to the damage caused by different sorts of natural forces like torrential rains, floods, tornadoes and drought. The risks of epidemics and disasters are considerably greater than in the industrialized countries. An insufficiency of telephone lines between a disaster area and officials can have a decisive effect on the success of assistance operations.

Therefore, the construction of a telephone network in an underdeveloped country and its extension to outlying villages are cornerstones in the planning of later development activities.

Well Planned

The Foreign Affairs Ministry's Development Aid Department (Finnida) does not, of course, have the resources for organizing and planning in detail telephone technology projects. For that Finnida makes use of the assistance of outside experts.

The basic information on the telephone situation and its development needs is obtained from government officials and often too from studies and reports by development aid banks like the World Bank. On the basis of the basic data, Finnish telecommunications experts who serve as consultants for Finnida prepare a detailed project plan in cooperation with the recipient country's telecommunications administration experts.

If the study of the project in question conducted by the international organization is inadequate, Finnida has a report made by ITU (International Telecommunications Union) consultants familiar with telephone situations in the underdeveloped countries. These reports are extensive and cover those areas of life which the project may affect from many angles.

The drafting of all of these plans and reports along with studies conducted locally takes about 2 years. After that, Finnish officials can decide on participating in the funding of a regular development aid project.

The development aid recipient country participates in the project with its own contribution by, for example, procuring parcels for plant buildings, building the facilities needed for the equipment and providing manpower for the operation of the project. Finland's role is the technical planning, supplying of equipment, supervision of the work and training of the underdeveloped country's telecommunications equipment installation and operations personnel.

In terms of its technical properties, the telephone network is designed in such a way that it will withstand the strains caused by natural forces and assure the preservation of telephone lines under extremely difficult conditions as well.

Training Important

In the underdeveloped countries modern telecommunications technology is new, but it is nevertheless well suited to conditions in the underdeveloped countries. For the implementation of the new technology to go smoothly, the personnel who work with it must be given sufficiently extensive and thorough training.

Finland has for several years now participated in the training in Finland of experts on telecommunications projects in underdeveloped countries being conducted with development aid funds. The main emphasis in the training has specifically been the adaptation of new technology to conditions in underdeveloped countries. Also part of every Finnish telecommunications technology project is an extensive training program which includes an on-the-job training phase in the underdeveloped country lasting for the duration of the project (3 to 4 years) in addition to special training that takes place in Finland.

Project observation and followup continue after the new facilities have gone into operation and the underdeveloped country can, if need be, obtain the assistance of a consultant from Finland.

In this way they ensure that development aid funds used for the telephone network really continuously benefit the recipient country and create the conditions necessary for the underdeveloped country to develop itself.

Telephone Density per 100 Inhabitants

Country	GNP per Inhabitant in Markkas	Capital	Rural Areas	Average
Finland	55,000	104	50	60
Sri Lanka	1,500	2.3	.1	.5
Bangladesh	650	1.2	.01	.1
Nepal	750	2.1	.05	.1
Sudan	2,500	2.5	.08	.3
Egypt	3,700	3.9	.25	1.75

(Data on 1983 or 1984.)

11,466
CSO: 5500/2624

NEW TELECOMMUNICATIONS LAW SEEN PROMOTING MONOPOLY

Helsinki HUFVUDSTADSBLADET in Swedish 13 Feb 86 p 2

[Editorial by Inger Jagerhorn]

[Text] There is a danger that the new telecommunications law will pave the way for another state monopoly. The long-term position of the private telecommunications companies is threatened and their economic foundations are undermined, Inger Jagerhorn writes in today's first editorial.

Calmly and quietly, you could even say insidiously, a development is taking place that, in the long run, could undermine the economic foundations of the private telecommunications companies and pave the way for a monopoly. Is this what we want?

Do we want to see the economic conditions necessary for private telecommunications services to be eroded and for the Postal and Telecommunications Service (P&T) to take over everything eventually? Do we want the private telecommunications companies to fall into a situation in which they may operate only in unprofitable sectors of telecommunications which, in turn, will mean that they must have higher rates to break even which, further, will make these companies more and more unpopular and which, finally, will mean that they probably will shut down completely?

We are awaiting a new telecommunications law with great interest. The proposal, which is based on a 2-year-old committee report, has been examined by the ministry and, according to optimistic estimates, could reach the government in March.

The new law will replace the old law, which is over 100 years old, from the time of the czars. It is remarkable that such an old law can regulate both the modern, lightning-fast transfer of data and pictures through telephone lines as well as ordinary "old-fashioned" telephone conversations. Still, we must stop and think. Clearly, the old law is broad enough to cover a wide range of activities and flexible enough to meet rapid developments--although not forever, of course.

How will the new law deal with these problems? It seems that a number of pitfalls have already been avoided. The problem is not to tie the text of the law down to the technology that already exists, since technical developments are so rapid that such a law could severely restrict progress. The old telephone network is now becoming a multiservice net. No one can predict where this development will end. We are now looking forward to the optical broadband network that will be installed sometime during the next century.

Although the law must not be too specific in the technical aspects, it is both possible and desirable to indicate the division of labor between the postal and telecommunications service on the one hand and the telephone companies on the other. Such a distribution could apply, for example, to operating as opposed to constructing telephone lines.

It appears that some confusion could arise on this point. The Postal and Telecommunications Service is given the possibility of constructing "special" exchanges for the telecommunications network, although nothing is said about what "special" means in this sense. The agency specified by the law to define this term is precisely the Postal and Telecommunications Service.

There are examples of cooperation between the Postal and Telecommunications Service and the private telephone companies in certain areas of the new telecommunications technology. One example is the General Data Transfer Network (ADN), where the Postal and Telecommunications Service has agreed to maintain an exchange, while the local telephone lines have been managed by the telephone companies. But this was a relatively simple agreement to reach since, at the time, there was only one nationwide data center.

Now the situation has changed. The Postal and Telecommunications Service is busy planning 11 new local exchanges to be operated by P&T. They will be installed in Helsinki this year and next year. P&T will also be responsible for the long-distance lines. This gives some indication as to how the new telecommunications law will be interpreted. This does not bode well.

The 58 local telephone companies in our country now operate on P&T concessions. The concessions require the companies to cover completely the telephone needs of their area. Two-thirds of our country's 2.9 million telephones belong to the private sector. It is this sector that has constructed the local telephone networks in our country. It is also this sector that has provided 80 percent of the investments in the overall telecommunications network.

The Postal and Telecommunications Service is responsible for long-distance traffic. Technically, P&T does this by joining the various private telephone networks together. The cost of doing this hardly justifies the high long-distance fees. Of all the telephone fees collected, two-thirds are long-distance charges. In practice, this amounts to a kind of tax.

The private telephone companies are not permitted to compete in the long-distance sector. On the other hand, they are obligated by their concessions to provide all telephone services within their district. Only the Postal and Telecommunications Service is free to decide which telecommunications services it wishes to provide.

If the division of labor between P&T and the private sector is unclear--which it is in the present proposed legislation--P&T will be free in the future to snap up the most profitable areas for itself. This could also mean that several parallel networks will be constructed--an unfortunate development from a financial standpoint.

The private telephone companies will have to fulfil their "obligatory" duties and be excluded from profitable new "special" telecommunications services. Eventually, the private companies will have to increase their rates dramatically--or shut down. We will then be approaching a new state monopoly.

The exact opposite trend is found in the rest of the world. Instead of centralization, there is a move toward decentralization in the area of telecommunications services. The large American telecommunications monopoly AT&T was broken up into several local companies. British Telecom was privatized and sold on the stock market while, at the same time, several competing companies were granted concessions. Japan has gone the same route. In Denmark legislation was proposed in January that would strengthen the position of the local telephone companies.

Will our own new telecommunications law really pave the way for a monopoly in telecommunications services? Is the new law consistent with the fact that the Postal and Telecommunications Service is a public utility so that, in any case, it does not have the same status as other companies? Finally, before the slow trend toward monopoly is complete, will we see several parallel networks constructed, simply because the division of labor is unclear and because double investments are the best way to force the private telephone companies, slowly but surely, out of the arena?

9336
CSO: 5500/2619

ITALY

MODERNIZATION SOUGHT THROUGH INTERNATIONALIZATION

Rome L'UNITA in Italian 17 Jan 86 p 4

[Article by Stefano Cingolani]

[Text] The year 1975: it was time for the microprocessor. While the world was floundering in the first oil crisis and funeral chants were being sung (the end of growth, the decline of the West, and so on) a small chip of silicon was able to shake the foundations of industrial civilization.

The year 1980: it was the personal computer's turn. At first it seemed only a gadget for videogames; then it changed into a work tool; finally, into a myth. As myth it has entered a crisis, as a tool it is changing the structure of work and even of the economy (think of the financial and banking services).

The year 1986: a year of transition after the computer industry experienced in 1985 its first crisis of adolescence typified by overproduction, immaturity, and savage competition. But in the midst of this period of reassessment and consolidation seeds are being sown for the next great leap: the creation of a teleprocessing market on a planetary scale.

Teleprocessing means the application of computer processing to the field of telecommunications. It ranges from the most simple and peaceful applications: the transmission and processing of data over great distances and in real time, to the most complex and belligerent application: the aiming of a laser beam cannon against a missile reentering the terrestrial atmosphere (as foreseen by one of the applications in the SDI project, Reagan's "star wars").

All the companies involved with data processing are seeking a place of their own in this field. How? First of all by forming alliances with companies that produce telecommunications which, in turn, seek a direct tie to companies that manage and distribute telecommunications (postal services, television and telephone companies). The woven relationships cannot be but international. It does not make sense anymore to talk of boundaries, of nations, may they be as small as Belgium or as big as the United States. It was not by chance that the first to make a move in this direction were the big American companies (followed at a distance by the Japanese).

Thus AT&T, the largest telephone and communications company in the world, is seeking a place of world status in the field of data processing. The accord with Olivetti can be a milestone in such a strategy. On the other hand, the joint venture with Philips is more within traditional bounds (production and sale of telephone exchange centers).

IBM instead, first in computers and data processing, is aiming at inserting itself into telecommunications. And three of the major world producers in this field are European--as was pointed out by Kaspar Cassani, the president of IBM Europe. The old continent may be in debt to the United States and Japan for semiconductors and office machines, but it is a net exporter in the field which seems most promising for the future.

Four great international groups are thus being formed: the first is made up by IBM and its satellites; the second by AT&T plus Olivetti and Toshiba; the third sees Digital tied to General Motors who has acquired EDS and 20 percent of Comau-Fiat; and finally there is McGraw Hill-Fuijutsu-Hitachi-NAS.

As we have seen, Italian companies are also participating in these alliances; but not only private ones. STET [Telephone Finance Corporation] is in it, too. The financial arm of IRI [Industrial Reconstruction Institute]--with control over SIP [Italian Telephone Company], Italcable (telephones), Italtel (telecommunications and teleprocessing), SGS (chip manufacturing), Selenia (military electronics), and Elsag, Sirti, Cselt, etc...--first tried to reach a major agreement with IBM, but was not successful. A series of ties with the number one computer company remain through SGS, CSELT, and most importantly through Elsag (factory automation) who, with IBM Italia, has formed a new company called Seiaf. Then it has concluded an accord with Fiat by tying together Italtel (STET) and Telettra (Fiat) (this is the biggest news of last year, as yet unexplainable in many of its aspects).

In substance, a holding company has been formed: 48 percent controlled by STET, 48 percent by Fiat, and 4 percent by Mediobanca; its task is to study possible integration between the two companies (Italtel works in all aspects of telecommunications, Telettra in transmissions). But anything can happen: from the shifting of production activities from one to the other, to the transfer of shares, to downright merging. The only peculiarity is that this joint accord is not between two equal companies. Italtel is at least 4-5 times as big as Telettra; in fact, it has gross sales of 1,500 billion lire and 20,000 employees, while the company from Fiat has gross sales of 400 billion lire and 4,600 employees. In conclusion, a giant and a midget are getting together, but claim to have the same weight and height. The new board of directors, in fact, is made up of seven members: three from Fiat, three from STET, and one from Mediobanca.

What can be the strategic significance of such an accord? For STET it cannot be fully comprehended except within the logic of an ever-increasing concentration. It is said that in the 1990s only three companies in telecommunications may be left instead of the present six. And the new Italtel-Telettra holding company is searching for a European partner: the first choice could be the Swedish Ericsson, but contacts have also been made with the German Siemens, with the English Plessey, and with the French CIT Alcatel. In this manner, STET and Fiat would form the nucleus around which they could aggregate a pool of companies, or become partners with one of the European giants.

Nevertheless, already STET, on its own accord, has recently favored ties between its subsidiaries and the more important international conglomerates. It suffices to mention the ties between SGS and Toshiba for semiconductors. Therefore, it cannot be said that it needs a calling card to enter the club of the big timers. Maybe the opposite is true. It is Fiat who, by joining with STET, enters the field of teleprocessing striving not to miss the bandwagon after General Motors (as we know) also entered the field and Daimler Bentz acquired Aeg-Telefunken. Anyway, we shall soon see whether or not the marriage will favor both partners.

What is certain is that in these last months the big private Italian conglomerates are competing to conquer a key position in the battlefield of teleprocessing. The last ones to arrive are Montedison and Pirelli.

At the end of November, Montedison (or more precisely, its affiliate Meta who is in services, finances, and advanced technologies) has established relations with STET to give life to Televas (51 percent controlled by SEAT from the STET group, and 49 percent by Meta), a small company with a capital of 2 billion lire which, for now, will employ a few dozen people. Its purpose is to furnish advanced services (from electronic bill-paying to inventory management) starting with the 550 Standa chain stores. The objective is to achieve a business of $8.7 million by 1987. Anyway, Montedison can count on the experience of its affiliate Datamont who manages the communication services for the conglomerate.

Involvement in teleprocessing is almost compulsory for Pirelli since it is one of the major producers of optical fibers, essential for the modern systems of information transmission. Thus, the group from Milan has aimed at purchasing shares in foreign companies (among these the American Litel, a telephone company from the Midwest). Then last October it stipulated an agreement with IBM Italia to give birth to Boselli, for operating in the very wide field of automated management of building services.

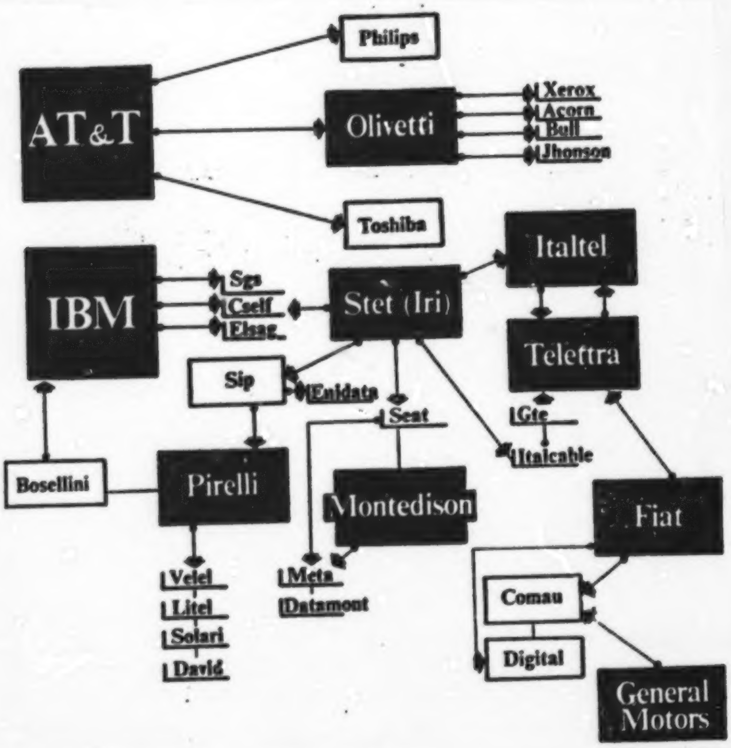
Finally, even ENI through ENIDATA, its computer processing company with 110 billion lire in sales and 750 employees, has stipulated an accord with SIP to market special credit cards (smart card) which would allow the motorist to fill up his tank at AGIP gas stations, travel on toll roads, sleep at motels, and pay by telephone. All that is necessary is a bank account.

Big changes are therefore taking place, while the entire infrastructure of society is being shaped by the computer. Activities of companies, even the Italian ones, have reached a maximum. And yet, in the entire sector ranging from office machines to electronics our trade balance is in deficit and has worsened over the years. Between 1980 and 1984 the imports have tripled while exports have doubled. Therefore, the national demand has been much greater than the total productive capabilities of Italian companies.

The multinational computer companies largely present in Italy have contributed noticeably to this negative balance, because their import of products has grown one-and-a-half times in the 4 years, with a 50-percent jump in 1984. This means that their main activity is to sell hardware and implement software products elsewhere. Among the four major countries of the European Community ours is the one with the largest deficit (even in photocopying machines).

Olivetti, through an accord with AT&T, was able to penetrate the American market selling 500 billions worth of equipment; additionally, it furnishes Xerox with the M24 personal computer which the U.S. company distributes under its own name. It is a volume of export that permits the Ivrea based company a production level sufficient to keep it in step with the market demands. Nevertheless, in spite of Olivetti's dynamism, in spite of the varied fields of interest pursued by STET, the net balance of Italy in the field of data-processing is deeply in the red.

Even this field, therefore, is experiencing what is happening to the automobile industry where the profits of FIAT are accompanied by a deficit in the balance of foreign trade. In the meantime, the positive part of the balance continues to be sustained by the small and medium-size companies operating in apparel manufacturing and light machinery. In conclusion, was the "great restructuring" for naught?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General Motors

The Electronic Galaxy

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CSO: 5500/2588

ERICSSON, ELEKTRISK BUREAU JOIN FORCES TO MEET ITT CHALLENGE

Oslo AFTENPOSTEN in Norwegian 27 Jan 86 p 32

[Article by AFTENPOSTEN Correspondent Arve Hoff: "Ericcson and EB Continue Collaboration"]

[Text] "We have annual sales of 700 million kroner based on technology which has its origin in our joint venture with L.M. Ericsson. This constitutes 50 percent of sales at Telecom and 25 percent of sales at Elektrisk Bureau as a whole (the EB group)."

It is Director Tore Egil Holte of the Telecom telecommunications division, the EB group's largest unit, who illustrates in this way the close and extensive technological collaboration between Elektrisk Bureau and the Swedish worldwide firm. Firm Head Bjørn Svedberg on Friday expressed the fact that this collaboration will continue, although Ericsson before Christmas reduced its share holdings in EB from 25 to 10 percent.

On the same occasion Ericsson Director Bo Landin, who is also an EB board member, stated that he was convinced of the fact that EB-Ericsson sooner or later will again enter the picture as supplier of digital telephone exchanges for the Telecommunications Agency in Norway. Three years ago Standard Telefon og Kabelfabrik [Standard Telephone and Cable Factory] (STK) emerged victorious from the tug-of-war concerning these contracts with its exchanges from the American ITT firm.

Landin's opinion that EB and Ericsson would get their share of this market was not given grounds for with reference to the delay problems STK-ITT is now struggling with. But he believed that the Norwegian Telecommunications Agency, like other telecommunications agencies, for several reasons--among other things, out of concern for competition--would want to operate with two systems.

Director Holte said that EB is not dependent on such a contract, but stressed that in the long term it will be very important, because it would give EB a broader base for further technological development.

These viewpoints were presented to Norwegian journalists at Ericsson's headquarters in Stockholm, where both Bjørn Svedberg and Bo Landin declared that the changed ownership situation at EB would not influence the EB-Ericsson collaboration.

"I think that the ownership situation is of quite subordinate significance in this connection," Svedberg said. And Landin pointed out that this concerns a collaboration which is built on common interests and which is the wish of both parties.

8831
CSO: 5500/2625

EXPANDED OPERATIONS SEEN AT TELEFONICA

Madrid ACTUALIDAD ECONOMICA in Spanish 10 Feb 86 pp 121-122

[Article by Jose Antonio Roca and Francisco Garcia Martin]

[Text] The uncertainty is over. Telefonica [Telephone Company of Spain] is not giving up its industrial group, and in recent months its industrial structure has actually been strengthened. Only the forms are being changed: Solana doesn't want a holding, but rather a multinational which, inside, will control its companies through its purchasing power and minority stock holdings.

In 1985's big agreement, Telefonica brought Spain into partnership with AT&T, the worldwide leader in communications. This time there was an alliance: in the past the U.S. company had considered establishing a base in Madrid. That was in the time of Alfonso XIII, and a partner was sought in the United States to develop the telephone system: either AT&T or ITT. ITT won the contract. The two companies later reached an agreement giving AT&T the U.S. market and ITT the international market. And that was the origin of Standard Electrica.

Now the two companies will meet once again in Spain. Things have changed since that time: AT&T has lost its monopoly in the United States, and turned toward the world market. It now has agreements with Philips, with Olivetti, and in Spain with Telefonica. This is a well reasoned out agreement: "New technologies in the field of communications have forced Telefonica to make up its lag in semiconductor design and manufacturing. The added value of equipment is now found in chips." This statement was made by Victor Goyenechea, an executive of the Telefonica group. Does this mean that things have basically not changed since the company's founding?

Industrial Strategy

What has changed are areas of emphasis, needs, and marketing strategies. Telefonica likes to describe itself in the 1980s as a group of companies, rather than an industrial group; the company is working on incorporating technology with a high added value rather than simply expanding its network. It has decided to divest its stock in companies of the group in order to open it up to private capital, even though it will keep controlling packages and will be making use of its purchasing capacity. In addition, it would like the companies in which it holds shares to diversify their clientele and engage in the healthy exercise of exporting instead of relying solely on Telefonica for their business. In fact, the dependence of these companies on the Telefonica market declined six points in 1985; it is now supposed to be about 55 percent.

These ideas lie behind many of the operations which have taken place in recent months and others that will take effect in the midterm: Amper is one example of how Telefonica plans to give more influence within the group to the banks which are part of the company; Central, Banesto, Hispano, Bilbao, and Santander--and to Stock Exchange investors. "The presence of private capital on the boards will force management to become more moderate and efficient," noted Goyenechea. The company is now studying other operations in which it might conduct a "nuanced reprivatization"; it seems very probable that the Sintel company--which is 100 percent owned by Telefonica--may be the next.

Other companies that may be the target of such operations are Intelsa [Telecommunications Industries, S.A.] and Telettra. Telefonica now holds 49 percent of Intelsa--the Swedish multinational Ericsson owns a 51 percent controlling interest. In Telettra, Telefonica holds 51 percent of the stock, with the remainder belonging to the Italian parent company. "These operations would be more complicated," said Goyenechea, "because with a possible sale of shares on the Stock Exchange, the foreign partners want guarantees about the control of these companies." Although the company isn't in any great hurry to carry out these plans--they estimate a period of about 4 years for their execution--the intent to do so has been decided.

Purchases play a fundamental role in this strategy. "Planning of purchases is part of a predetermined plan, which serves both to improve Telefonica's internal management and also to stimulate Spain's entire communications sector," noted Victor Goyenechea. This dispels any doubt about the company's intentions regarding their firms. "Never have we considered abandoning the industrial sector," said Goyenechea, "but we have to keep the market from becoming so locked up that the companies forget that they should diversify and export."

Other member firms of the group are being given a different treatment. Telefonica has continued to add new subsidiaries in recent months, "wherever there were strategic sectors being overlooked," remarked Goyenechea. Thus, the number of firms created by the company doubled in recent months, including firms such as Telefonica Sistemas or Telefonica y Datos. But the most striking feature was certainly the development of agreements with top-ranked international firms, which have two purposes: to give Telefonica a multinational impact and to attract new technologies to Spain.

Foreign Partners

This month the latest major operation is being concluded; an agreement with the German firm, Siemens. Its objective; to produce cables for optical fibers. This will complement one of the 1985 contracts, with the U.S. firm, Corning Glass, to manufacture optical fiber in Spain. The creation of this joint enterprise with Corning Glass--1.05 billion pesetas in capital, with 65 percent held by Corning and 35 percent by Telefonica, with a scheduled investment of 3.5 billion pesetas--is about to be settled. Corning Glass, in conjunction with Siemens, has established a joint firm, Siecor. The Telefonica-Siemens contract will complement this--optical fiber plus the cable that surrounds it--in a field with a strong future; digital communications.

More Sales, More Profits

(Most representative subsidiaries and shares in ownership, in millions of pesetas) [except as noted with *: billions of pesetas].

	1984 Data			Provisional 1985 Data	
Name	% Telefonica	Sales	Results	Sales	Results
Amper, S.A.	87.5	4.271*	138	7.200*	381
Cables de Comunicaciones,S.A.	49	5.770*	765	6.200*	150
Cetesa	97.33	4.910*	67	5.705*	100
Cosesa	94.14	5.457*	1	5.750*	25
Etasa	100	1.810*	128	1.700*	80
Entel,S.A.	100	2.960*	61	3.500*	150
Grafibur	100	571	58	550	20
Hispano Radio Maritima	100	1.939*	(373)	2.200*	20
Intelsa	49	11.476*	1,305	12.500*	550
Secoinsa	23.75	10.291*	158	11.900*	100
Sintel,S.A.	100	13.749*	496	16.800*	530
Standard Electrica	20.64	52.763*	(650)	69.000*	
Telettra Expanola, S.A.	51	9.770*	101	11.600*	300

Note: The 1985 results are estimates at the close of the fiscal year. Other firms which were recently created, such as THM, Indelec, and Telefonica y Datos, have not been included in this chart, as their results are not representative. Nor have some other firms been included, such as Urbana Iberica, in the process of liquidation; or Telefonica International, a firm formed to control foreign currencies. The complete group's total billing in 1985 was 150 billion pesetas; its profits were 3 billion pesetas. Telefonica's participation in Amper will be reduced to 16 percent in 1986.

"With these agreements, we now consider our major projects completed," said Victor Goyenechea. The time has come to implement them, And that will be no small job: a number of contracts were signed during 1985, including the following. With the gigantic U.S.-based AT&T: the manufacture of integrated circuits in Spain, with AT&T holding a majority interest of 80 percent of the capital of 11.375 billion pesetas and estimated investments of 35 billion pesetas. With the Japanese firm, Fujitsu: a merger with Secoinsa [Spanish Communications and Data Processing Company, Inc] to create Fujitsu Espana, about to be set up with a capital of 6 billion pesetas, with Fujitsu holding 60 percent and Telefonica 40 percent. Telefonica became the owner of Secoinsa after taking it over from the INI [National Institute of Industry]. One further item: an 8.3 percent share in the European holding, ES2, which is to develop and manufacture integrated circuits to order, and the intention of forming a joint 50/50 compnay with Telefonica-ES2 for designs in Spain. And as if all this were not enough, Entel [National Telecommunications Company] is seeking a name for another joint venture, with a capital of 300 million pesetas, 70 percent owned by Entel and 30 percent by the Norwegian firm, Sysscan. It will work in the field of digital mapping. When Pacific Telesis begins construction of the research and development center contracted by Telefonica in Madrid, it is going to meet all of its communications colleagues in Spain.

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END

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28 APRIL 1986

Worldwide Report

TELECOMMUNICATIONS POLICY, RESEARCH, AND DEVELOPMENT

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28 APRIL 1986

WORLDWIDE REPORT

TELECOMMUNICATIONS POLICY, RESEARCH AND DEVELOPMENT

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PEOPLE'S REPUBLIC OF CHINA

CHINA'S SATELLITE COMMUNICATIONS DISCUSSED

Beijing XIANDAIHUA [MODERNIZATION] in Chinese Vol 8 No 1, 25 Jan 86 p 21

[Article by Zong Ruhou [1350 3067 0624], Research Institute No 1, Ministry of Posts and Telecommunications: "Satellite Network Television in China"]

[Text] China is a nation of 1 billion people and 9.6 million square kilometers of area. However, 90 percent of the population lives in the eastern coastal regions, while in the vast northwest territory, including Xizang, Xinjiang, Nei Monggol, and surrounding areas the population is sparse. From the point of view of geographical characteristics, the northwest is a bleak and desolate desert, the southwest is undulating hills, and the coastal areas have islands of all sizes spread out like stars, all of which makes it hard to link up all these areas with any kind of surface communications means.

There are three different types of television programs in China: programs from the Central Television Station, provincial television programs, and programs from local television stations in major cities. Programs from the Central Television Station, including television news, entertainment programs, and educational programs, use ground microwave links to transmit to the coast and the majority of provinces; but for those rural areas without microwave links, they can only rebroadcast UHF television signals received from neighboring cities; frontier northwest areas, like Xizang, Xinjiang, Nei Monggol and surrounding areas are a long way from ground microwave links.

In 1972, China began to enter the age of satellite communications, and it was not long before people realized that satellites could play a large role in transmitting television programs to China.

From "Symphonic Music" to International Communication Satellite Transmitters

Satellite communications are characterized by not being limited by distance, and they allow for large communications volumes, high communication quality, small investment, and rapid construction. Quite some time ago, in 1978, China began the experimental broadcasting of satellite television programs. Based on an agreement between the China Electronics Society and the West German Ministry of Space and Aeronautics Research and the French Space Center, the West German and French "Symphonic Music" experimental satellite was used, and a series of television broadcast experiments were done between ground stations in Shanghai, Nanjing, Shijiazhuang, and Beijing, from which satisfactory results were obtained.

To ensure the feasibility of satellite television using international communications satellite transmitters and small ground stations, from June through October 1982 we demonstrated television broadcasting using the international communications satellite transmitter.

First of all, we erected small receiving stations using 6 meter antennas in Urumqi, Xinjiang and Hohhot, Nei Monggol, and on 30 July 1983 we did a large-scale demonstration of satellite transmitted television between Beijing, Urumqi, and Hohhot through an international communications satellite transmitter over the Indian Ocean and using the Shanghai Hongqiao satellite communications ground station outfitted with equipment of our own design. On-the-spot retransmission of the signal received by each television station was warmly welcomed by the local people, and showed as well that China has already prepared the way for large-scale applications of satellite communications technology.

Satellite Network Television of a Preliminary Scale

The success of the television transmission demonstration has led to important decisions regarding development of a domestic satellite communications system. Specifically, they are: to launch China's first experimental communications satellite, and before specialized communications satellites are launched, to take the transitional step of leasing an international communications satellite transmitter. This will allow a gradual link up by satellite of the large coastal cities with the border regions, a link up of areas within the border regions, of coastal islands and offshore drilling rigs with the continent, and of important economic development areas with domestic and international communications networks, all of which will form a domestic satellite communications system in China of an initial scale. By including a satellite network television system, we can transmit Central Television Station programs to all areas of the country, the goal of which is to attain very good quality at a reasonable cost.

A leased transmitter network television system began on 1 August 1985, and began operations under the International Communications Satellite Organization's "Share Plan," and was continued after 1 November from a leased transmitter over the Indian Ocean.

Ascending emission is the responsibility of the Beijing groundstation. The Beijing groundstation will be the main station for the domestic satellite network. It has an 18 meter antenna, currently under construction but just about finished. Before the Beijing groundstation is completely finished, ascending emission responsibility will be that of the Shanghai Hongqiao groundstation with its 10 meter antenna. According to plans for the first period of television reception station construction, 53 satellite television reception stations have already been built in the 16 domestic provinces and autonomous regions, and they have all been linked to the local television stations. The reception ground stations are for the most part television receive-only stations, and are fitted with GaAs effector low-noise amplifiers and high quality satellite television receivers.

Advancement and Improvement

To better develop China's satellite network television broadcast system, in the next few years we will adopt a series of measures that will suit the growth of capacity for program broadcast and the growth of the number of reception stations.

These steps include: according to satellite deployment plans of the International Communications Satellite Organization, we will shift the leased transmitters to satellites that are directed toward the east in order to satisfy the needs of the northeast groundstations; satellite television broadcast channels will be increased to include even more satellite television educational programs and television broadcast programs from the provinces and autonomous regions; the dimensions of the receiving station antennas will be reduced; we will launch our own satellites that will be able to provide similar power; and we will adopt new modes of transmission that will suit satellite television transmission, such as various forms of analog component composite systems.

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POSTS, TELECOMMUNICATIONS POLICIES DISCUSSED

Beijing XIANDAIHUA [MODERNIZATION] in Chinese Vol 8 No 1, 25 Jan 86 p 16

[Speech by Yang Taifang [2799 3141 5364]: "Directions for the Development of Posts and Telecommunications During the 'Seventh 5-year Plan'"]

[Text] At the recently held "National Working Conference on Posts and Telecommunications," Minister Yang Taifang discussed the primary goals for development of Chinese posts and telecommunications during the "Seventh 5-year Plan," as well as certain problems for which solutions should be stressed. We publish below the portion of that speech that concerns telecommunications.

Primary Goals

The overall volume of posts and telecommunications business will reach about 5 billion yuan by 1990 for an average annual rate of increase of 11 percent.

In regard to telecommunications, urban telephone capacity will increase by 3 million subscribers until by 1990 the total number of telephone sets in this country (including subscribers to rural and small exchanges) will reach about 13.5 million; long distance exchange equipment will increase its capacity by 100 million sections, increasing circuits for long distance service by 60,000 lines; provincial capital municipalities, urban economic centers, and open coastal cities will be the initial sites for domestic and international automatic long distance dialing; partial digital communications networks will be established first in the Changjiang delta, the Zhujiang delta, and the Beijing-Tianjin-Tangshan area; a group of satellite communications ground stations will be set up, as well as a preliminary domestic satellite communications system, which will answer the communications needs of border areas and specialized sectors.

Posts and telecommunications research and industry will actively provide technology and equipment for the technical transformation and communications construction of the posts and telecommunications communication networks, will earnestly improve product quality and production capacity for urgently needed communications equipment, and will import foreign advanced technology, will further its absorption and assimilation, and will vigorously develop the technology for programmed exchanges, satellite communications, digital microwaves, and fiber optic communications to provide the necessary follow-up capacity for development in the 1990's.

Problems for Which to Stress Resolution

I. Regarding the question of the pace of the development of posts and telecommunications.

Posts and telecommunications are a weak link in the national economy and are in short supply, so that pace should be greater than the average rate of growth for the national industrial-agriculture gross output value. "Recommendations" for the "Seventh 5-year Plan" clearly focus on posts and telecommunications, and we will resolutely place the development of posts and telecommunications in a foremost position. At present national planning has preliminarily determined that the scale of fixed asset investment for posts and telecommunications during the "Seventh 5-year Plan" be at about 10 billion yuan, which is nearly double that during the "Sixth 5-year Plan."

For this reason, the Ministry of Posts and Telecommunications will adopt a positive attitude and do its utmost to give an even better, even faster, and even more real pace to the building of communications. To reduce the gap between communications capabilities and the urgent need of society for communications, we will allow them to be better able during the "Seventh 5-year Plan" to suit the needs of society and to develop in better coordination with the entire national economy.

During the "Seventh 5-year Plan" we will make the most of the benefits from investment, and we will gather our strength to construct a group of major communication projects, as for example: an optic fiber trunk line from Nanjing to Wuhan with urban telephone and long distance exchange equipment, a domestic satellite communications system, assembly lines for programmed exchanges, digital microwaves, and fiber optic communications, and facilities that need to be increased for construction and outfitting of a postal shipping network and routes. We will exert even more effort toward the adjustment of the posts and telecommunications network and toward technical transformation, and toward the linking up of projects already finished or under construction. For example: adjustment, expansion, and supplementing of the first level trunk network for national telecommunications, which needs only about another 170 million yuan investment with which to add from 4,000 to 5,000 circuits for long distance service, which is about the same number that are in the current national long distance level one trunk line; at the same time we will expand the second series of the coaxial cable 1,800 line carrier trunk linking Beijing, Shanghai, and Hangzhou, and will technically transform the 600 line Beijing-Taiyuan-Xi'an microwave trunk with a 1,800 line microwave system.

II. Regarding the question of restructuring the posts and telecommunications system.

Organizational restructuring of the posts and telecommunications departments will resolutely implement the spirit of the Central Committee in the restructuring of the economic system, and will actively and earnestly develop measures based on the characteristics of the posts and telecommunications departments. We must thoroughly understand the programs and networks and combined services of posts and telecommunications communications, as well as the characteristics of the widespread and spreadout posts and telecommunications structures. Since this will involve the major questions of conduct and control of communications throughout the entire network and the development and construction of trunklines, we must maintain our unity and strengthen our overall control; in the aspect of invigorating the economy, we must also do what is proper for a particular area to allow enterprises their necessary vitality.

1. We must organically combine microscopic invigoration with the strengthening of overall control.

In the area of communications construction, we want to pay close attention to and control the planning and distribution of networks, the scales of construction, trunkline construction, and accompanying projects, as well as the benefits from investments.

2. In solidifying and perfecting the economic accounting system of the communications enterprises, we will do a good job at specialized checking and will gradually put specialized operations into effect.

3. We will restructure the posts and telecommunications communication network structures according to service flow volumes and directions.

As restructuring of the economic system unfolds with the cities at its center, and as new economic areas form, the posts and telecommunication network structures of the past are already unable to meet objective needs. We must break through the barriers of administrative divisions to carry out a necessary adjustment and restructuring of the posts and telecommunications networks based on service flow volumes and directions. On the one hand, we must link together the spokes by levels according to administrative divisions to guarantee the requirements of party and political leadership; on the other hand, we must meet the increasing needs of lateral relations, as well as the needs of putting through service between sectors and provinces, neighboring counties, and for connecting regions, and must adjust and increase direct postal routes and telephone circuits and reduce unnecessary circuitous routings.

4. Regarding restructuring of posts and telecommunications expenses and fees.

III. On the problems of quality and of enhancing operations management.

We must first investigate operational problems, and enhance overall decision making and leadership. The telephone is the most convenient and numerous means of communication, while completion of telephone networks creates a basis for the development of other enterprises. For this reason, developing telephone communications should be a long term operational principle of the telecommunications enterprises, and whether urban telephony can develop is the key to the success or failure of telecommunication enterprise operations. We must give preference to finding ways to satisfy the needs for telephone service in the coastal areas, at the same time keeping in mind the coordinated development of the national communications networks.

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PEOPLE'S REPUBLIC OF CHINA

DEVELOPMENT OF CHINA'S FIBER OPTIC TECHNOLOGY DISCUSSED

Beijing XIANDAIHUA [MODERNIZATION] in Chinese Vol 8 No 1, 25 Jan 86 p 17

[Article by Bai Qizhang [4101 0366 4545], Institute of Telecommunications and Transmission: "China's Fiber Optic Technology in Development"]

[Text] Fiber optic technology is a new transmission technology having the outstanding advantages of low loss, high capacity, no magnetic interference, all-dielectric transmission, small size, and light weight, and which has already been applied more and more broadly in many fields. China's research into fiber optic technology began in the mid-1970's, and by 1975 we were able to develop successfully in the laboratory a continuously operating GaAs DH laser, and then the next year a multimode optic fiber (wavelength = 0.85 micrometer) appeared. After 1978, China developed a series of experiments with fiber optic communications systems, which were carried out for the most part between exchanges in the public telephone networks, in urban telephone networks, and in special communication networks. These experiments proved that in telecommunications networks there were advantages to using fiber optic technology over traditional metallic wires, the results being even more remarkable in the area of digital transmissions.

The State of China's Fiber Optic Communications Experimental System

The scope of applications for fiber optic communications systems may be divided into the three categories of junction lines, trunk lines, and subscriber lines. The fiber optic experimental system currently in our public telephone network is installed within a junction line, and field testing of the fiber optic communications system in our long distance trunk network will begin in the near future, while experimental work on subscriber lines is still in the research stage.

The fiber optic communications system installed in Shanghai, Beijing, Nanjing, Wuhan, and Tianjin is our primary experimental system, and is laid between telephone exchanges within the junction network. The digital baud rates of this system are 8.448 megabits and 34.368 megabits; not counting the Beijing system, the fiber optic cable used in the others is composed of graded multimode optic fibers; the method for making the optic fibers is the spatial chemical vapor sedimentation method; in the region of 850 nanometer wavelengths, the attenuation constant of the graded optical fibers is less than 4 dB/km, while in the 1,300 nanometer range it is used at less than 2 dB/km; bandwidth values measured at the junctions of some experimental systems can be satisfactory for system operation; in the 8.448 megabits per second system, the light source device is an LED, while the 34.368 system uses a laser diode.

In the experimental systems mentioned above, the Wuhan system has been the most remarkable because it has the newest model lines and a long wavelength (1,300 nanometers), as well as being composed of three junctions (2 intermediary junctions). Some fiber optic communication systems of even more advanced performance have been under testing since 1984.

How Should China Introduce Fiber Optic Technology Into Telecommunications Networks

The fiber optic technology of many developed nations has already reached the stage of near perfection and high quality, but among developing nations, and especially China, how should fiber optic technology be introduced into communications networks? We must first take into consideration our particular situation.

Demand for service is the most important factor regarding the introduction of fiber optic technology

The growth in volume of various services in telecommunications and the development of new types of services are the motivation behind the introduction of new technology. As non-speech services develop, digital technology will quickly become a part of telecommunication networks, and sustained increases in digital transmissions will greatly accelerate the practical application and constant expansion of fiber optic technology.

Full affirmation of advantages brought by fiber optic technology

The superiority of fiber optic propagation systems allows them to be used in many communications fields. In comparison with traditional metallic wires, they have a broader bandwidth, longer relay distances, lighter weight, and somewhat smaller size. Also, they are not subject to RF and power frequency interference, nor do they constitute a danger from short circuits or discharge.

Economic suitability affects practical applications

Whether fiber optic technology can be applied in practice depends to a great degree upon whether it is cheaper than traditional means of propagation. Because individual prices within various costs vary considerably, accurate economics are difficult. Through certain means of propagation, as for example audio cable, for existing local telephone network symmetrical cable PCM is 2 Mb/s, on newly installed symmetrical cable it is 2 Mb/s, and for newly installed optical cable it is 34 Mb/s, from which can be seen that when communication distances are less than 6 km, AF continuous line cable is the most economical; but for distances above 6 km, it is most economical to use PCM on existing cables. If for other reasons, as for example where capacities of existing cables are full, the most suitable thing is to use optic fiber to transmit PCM at 34 Mb/s. While for those areas that have no cables, the use of fiber optic communication systems will be very much the most economical.

Taking into consideration the stability and reliability of the system and safeguarding its convenience

To allow fiber optic communication systems to operate stably over long periods, this requires that the entire system, including various components, be very reliable. At the same time, inspection and control of the system is very important to safeguard its convenience.

Based upon an analysis of the aspects discussed above, as well as from the experiences of experiments with fiber optic communication systems, it is clear that in junction networks, because of their suitability for transmitting over long distances and limits to their circuit capacities, it is most economical to use fiber optic technology; in long distance trunk line networks there are still problems with using fiber optic technology, as for example with power supplies, circuit tapping, etc., and as these problems are resolved fiber optic technology will be used more in long distance networks; the application of fiber optic technology to subscriber lines will need to wait until after the full-scale development of subscriber services before it can have a practical significance. This is because the quantities of optic fibers needed for this kind of network are vastly greater than for junction and long distance networks, so these expenses should be taken into full consideration.

Optic fiber technology is still new in China, but it can be predicted that it will be more widely applied here, and will powerfully accelerate the development of China's public telecommunications networks.

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BRIEFS

TV STATION ADMINISTRATORS--A board of administrators have been created to manage and operate the Banahaw Broadcasting Corporation [BBC], Radio Philippine Network [RPN] and the Intercontinental Broadcasting Corporation [IBC]. The board was created under an executive order issued by President Corazon Aquino. The order which took effect immediately was announced by Information Minister Teodoro Locsin Jr. Initially five members were appointed to the board. They are Francisco Licuanan 3d, Manuel Morato, Ninez Cacho-Olivares, Virgilio Yuson and Ricardo Nepomuceno. Under executive order, all members of the board are to come from the private sector. [Text] [Quezon City DZFM Radio in English 0500 GMT 15 Apr 86 HK] /12913

COMMUNICATIONS FIRMS MANAGERS--Transportation and Communications Minister Hernando Perez today said sequestered communications firms will be turned over to new managers. The sequestered firms are the Philippine Long Distance Telephone Company [PLDT], the Philippine Communications Satellite Corporation [Philcomsat], Eastern Telecommunications Philippines Incorporated and the Philippines Overseas Telecommunications Corporation. At the PLDT, Perez said a supervisory committee has been appointed, while at the Philcomsat, there is strong opposition against Carlos Parales as present OIC [Officer in Charge]. He said once matters are ironed out, the ministry will dialogue with the new managers on how these firms should be operated efficiently. [Text] [Quezon City DZFM Radio in English 0700 GMT 14 Apr 86 HK] /12913

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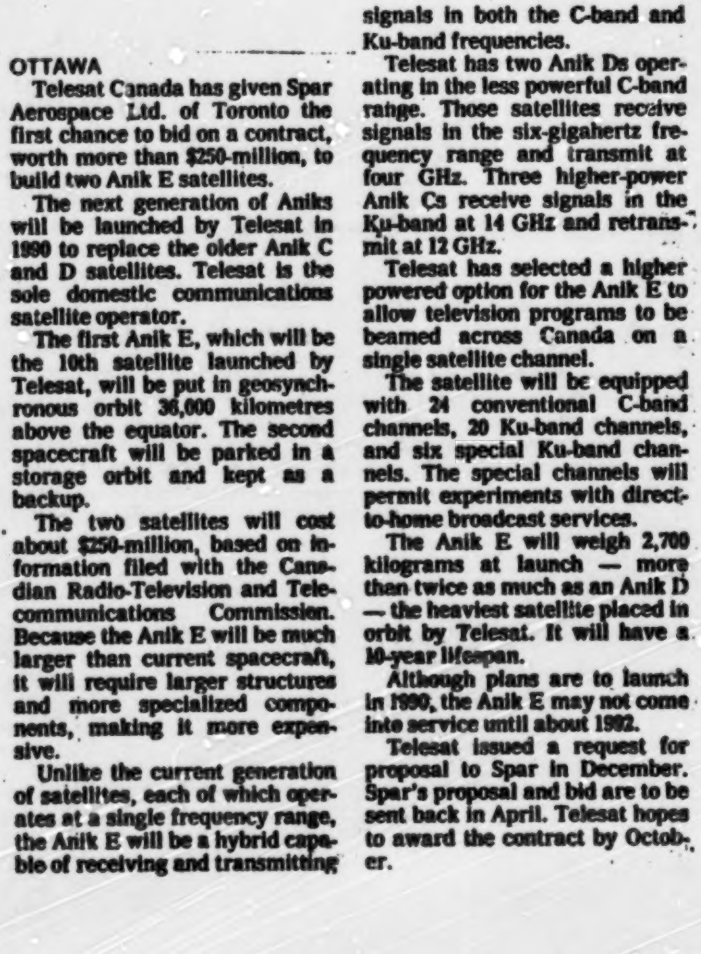
CANADA

BIDS SOLICITED FOR CONSTRUCTING ANIK E SATELLITES

Toronto THE GLOBE AND MAIL in English 11 Mar 86 p B20

[Article by Lawrence Surtees]

[Text]



OTTAWA

Telesat Canada has given Spar Aerospace Ltd. of Toronto the first chance to bid on a contract, worth more than $250-million, to build two Anik E satellites.

The next generation of Aniks will be launched by Telesat in 1990 to replace the older Anik C and D satellites. Telesat is the sole domestic communications satellite operator.

The first Anik E, which will be the 10th satellite launched by Telesat, will be put in geosynchronous orbit 36,000 kilometres above the equator. The second spacecraft will be parked in a storage orbit and kept as a backup.

The two satellites will cost about $250-million, based on information filed with the Canadian Radio-Television and Telecommunications Commission. Because the Anik E will be much larger than current spacecraft, it will require larger structures and more specialized components, making it more expensive.

Unlike the current generation of satellites, each of which operates at a single frequency range, the Anik E will be a hybrid capable of receiving and transmitting signals in both the C-band and Ku-band frequencies.

Telesat has two Anik Ds operating in the less powerful C-band range. Those satellites receive signals in the six-gigahertz frequency range and transmit at four GHz. Three higher-power Anik Cs receive signals in the Ku-band at 14 GHz and retransmit at 12 GHz.

Telesat has selected a higher powered option for the Anik E to allow television programs to be beamed across Canada on a single satellite channel.

The satellite will be equipped with 24 conventional C-band channels, 20 Ku-band channels, and six special Ku-band channels. The special channels will permit experiments with direct-to-home broadcast services.

The Anik E will weigh 2,700 kilograms at launch — more then twice as much as an Anik D — the heaviest satellite placed in orbit by Telesat. It will have a 10-year lifespan.

Although plans are to launch in 1990, the Anik E may not come into service until about 1992.

Telesat issued a request for proposal to Spar in December. Spar's proposal and bid are to be sent back in April. Telesat hopes to award the contract by October.

/9274
CSO: 5520/71

CANADA

COMMUNICATIONS MINISTERS DIFFER ON DEREGULATION

Vancouver THE SUN in English 28 Feb 85 p A10

[Text]

MONTREAL (CP) — British Columbia was the odd man out Thursday as nine provinces, the federal government and a territory called for caution and cooperation in telecommunications policy, while B.C. called for an "open skies" policy.

During the first day of a federal-provincial conference on the telecommunications system, ministers from all provinces except B.C. said that any moves must be cautious, to ensure that a system that works well now is not disrupted.

Displaying charity uncharacteristic of such conferences in the past, the ministers of communication promised each other they would cooperate to keep the Canadian system strong and affordable.

But B.C. International Trade Minister Pat McGeer, in a long and colorful attack on federal regulators, said Canadians really want a communications free-for-all.

As federal Communications Minister Marcel Masse scowled and twirled his half-glasses, McGeer called for the dismantling of the Canadian Radio-television and Telecommunications Commission, the main federal broadcast and telecommunications regulator.

Federal agencies "have no place in the bedrooms of B.C.," he said.

But McGeer stood alone in his appeal for freedom of electronics. The other provinces all advocated varying degrees of regulation to protect what is generally agreed to be one of the best communications systems in the world.

They all see a threat in U.S.-style deregulation, which followed the 1984 court-ordered breakup of the $50-billion American Telephone and Telegraph Co.

Studies have shown that consumer rates for basic service jumped 26 per cent in two years after AT&T was dismantled.

But the governments, in working toward a new national policy, are also mindful of calls from some telephone companies and from businessmen, who say lower long distance rates will help the economy.

Long distance rates are higher in most parts of Canada than they are in the United States, providing a powerful temptation to some companies to bypass the Canadian system and use low-cost American rate discounters.

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CSO: 5520/71

BELL CANADA SPENDING PLANS, REORGANIZATION DISCUSSED

Spending Projections

Toronto THE GLOBE AND MAIL in English 10 Mar 86 pp B1, B7

[Article by Lawrence Surtees]

[Text]

HULL, Que.

Rising demand for telephone services has led Bell Canada to predict that it will spend $9-billion in the six years between 1985 and 1990, mostly on new equipment to provide local and long-distance service in Ontario, Quebec and the Northwest Territories.

Underlying this dramatic spending program is the utility's assumption that its subscribers will dutifully spend more money on their monthly phone bills and make more long-distance telephone calls throughout the next five years.

Bell Canada, a unit of Bell Canada Enterprises Inc. of Montreal, estimates that its almost six million subscribers will increase their long-distance use by 41 per cent between 1985 and 1990. Bell forecasts that more than 1.3 billion long-distance calls will be made in 1990, compared with 923.8 million last year.

In 1986 alone, spending to meet new demand will total $861-million, 64.5 per cent of Bell's construction program, compared with $890-million in 1985, 65.6 per cent of last year's total capital spending.

Expenditures in the demand category are allocated for switching gear to route subscriber calls, transmission equipment and subscriber telephone sets.

These predictions are made in Bell's latest construction program review, a document filed annually with the Canadian Radio-Television and Telecommunications Commission. In addition to outlining the company's planned capital spending, the review updates Bell's five-year forecasts.

However, Bell's predictions will be subject to scrutiny by consumer groups, provincial governments and industry associations at a CRTC hearing that begins today. This year's review also serves as an important prelude to a more detailed proceeding, set to begin in June, that will examine Bell's economic performance.

Bell had revenue of $5.78-billion in 1985, of which more than $1.35-billion was spent on capital projects. The company expects to spend $1.49-billion in 1986, up 10 per cent from last year and 22 per cent more than it said it would spend in its 1985 forecast.

Besides the money being spent on new equipment to provide local and long-distance service, major replacement programs and special projects also account for a significant share of the spending.

Bell has 23 projects under way, each of which has a budget of more than $1-million. These include a 10-year-old program to install digital switches that can route computer as well as voice telephone calls, and a program to replace copper wire with fibre optics.

The major change from last year's review is the substantial jump in forecast customer demand.

Bell has increased last year's forecasts of new subscribers for the five-year period from 1985 to 1989 by 29 per cent, meaning more than 270,000 new telephone numbers. Bell has also revised its estimates of long-distance use and predicts a 46 per cent gain.

The new forecast says 158,200 business customers and 131,500 residential subscribers were added to Bell's network in 1985. That compares with last year's forecast of 131,935 new business customers and 118,500 residences.

Bell has changed its forecasts for 1986 and now predicts that it will get 124,300 more business customers and 128,000 more residential customers.

But there is little spare capacity in its network, Bell says, so demand will have to be met with new equipment. That means higher spending levels, but also cost cutting in other areas.

The increased use of automation is one way Bell is going about cutting expenses. A $69.1-million, eight-year project to automate customer records is now entering its second phase. By the end of 1988, Bell will have reduced its staff by 800 people because of the project. It expects annual savings of $36-million.

Bell has increased last year's forecasts of spending on computer systems by 51 per cent. It will spend $63.7-million this year, compared with $50-million in 1985, and estimates that it will spend $96.8-million in 1987.

- But the company is also improving its ability to meet demand through spending in other categories.

Bell's contribution to national projects undertaken by the nine telephone company members of Telecom Canada is also increasing. Such projects accounted for 5.5 per cent of Bell's 1985 capital spending. That figure is forecast to rise to 8.5 per cent this year and 10.1 per cent in 1987.

- A big chunk of this money can be found in the spending category for intercity long-distance equipment. Bell will spend an extra $43.1-million this year on a fibre optic cable project to link Toronto with the Ontario-Manitoba boundary and Montreal with the Quebec-New Brunswick boundary.

Divisions Consolidation

Ottawa THE CITIZEN in English 5 Mar 86 p C7

[Text] Bell Canada will consolidate its Dataforce third-party equipment maintenance division and the recently-acquired TRW Data Systems into one maintenance organization — Bell Technical Services Inc. — effective May 1. Bob Cheriton, previously general manager of TRW Data since it was acquired by Bell in 1985, has been appointed president of the new firm. Bell expects the new firm will capture a 25-percent share of the burgeoning $50-million Canadian third-party repair and service market.

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CANADA

TELESAT CANADA MARKET STRATEGY DISCUSSED

Toronto THE GLOBE AND MAIL in English 6 Mar 86 p C15

[Article by Lawrence Surtees]

[Text] Telesat Canada hopes to double the amount of revenue from business customers in the next five years by developing new niches in the private satellite network market.

Canada's sole domestic satellite communications carrier currently owns five satellites in orbit 22,300 miles above the equator. Until recently, however, the major use of the satellites has been for broadcasting video images.

But changes in the way Telesat can do business, coupled with the sharing of expensive facilities and reduced equipment costs are expected to increase demand for satellite-based business services.

Voice and data managers in the business community can now deal directly with Telesat to lease services and to plan or install networks. The change became effective last July.

Prior to that date, the terms of Telesat's agreement with the telephone company members of Telecom Canada required users to lease services from the telephone companies. And the telephone companies would gain a 12 to 20 per cent markup on the price of a satellite channel.

Telesat currently charges between $70,000 and $100,000 a month for a full channel. Prices vary, depending on what type of satellite is used — Telesat uses two kinds — and the number of options requested.

Telesat decided to break from the telephone companies' marketing power when Telecom Canada cancelled its short-lived trial of a satellite business network, dubbed Stratoroute 2000, in late 1984.

"We are now out there selling corporate satellite networks and it will take about one to two years to get several in place," said Eldon Thompson, president of Telesat Canada. "I don't think there will be any great spurt in the first couple of years, but then no one else has ever sold satellite networks in Canada."

Communication satellites operate like a large microwave relay. Unlike other transmission media, however, they can be used to send messages into any terrain over any distance. Expansion of some types of networks only involve the addition of more ground-based receiving antennas.

The price of satellite transmission is "distance insensitive" because it costs the same to send a message across the street as it does to send it to the Arctic.

Despite the construction of nation-wide fibre optic networks throughout North America, satellite technology is expected to remain competitive.

"Our key strategy is to find niche markets that are not erodable by the telephone companies and fibre optics," said Richard Jestin, director of Telesat's Anik Systems Division.

He is in charge of all non-broadcast markets at Telesat. Of forecast revenue of $105-million last year, non-broadcast users contributed revenue of $45-million.

"But I think that can be increased

to $100-million in the next five years, or about half of forecasted revenue of $200-million," Mr. Jestin said.

Some of the applications of private networks explored recently by Telesat users include:

☐ Monitoring the hydro-electric power network operated by Saskatchewan Power Corp.;

☐ Directing air traffic in a corridor of the northeast Arctic by linking an Arctic airport with air traffic controllers at Montreal's Dorval Airport;

☐ Establishing communication links with remote logging camps in northern British Columbia;

☐ Using a special dish to set up links between the mainland and offshore oil drilling rigs.

Several of these networks use special equipment made by domestic manufacturers. The Dorval air traffic control system uses the Skyswitch system made by SED Systems Inc. of Saskatoon; the B.C. logging camp system uses equipment made by Microtel Ltd. of Burnaby, B.C.; and the oil rig dish was built by Spar Aerospace Ltd. of Toronto.

In the United States, there are more than 30,000 small earth stations hooked up to private networks. The largest single purchase yet announced, of 10,000 dishes by Federal Express for its Zapmail customers, will increase that total.

Other potential large users of corporate satellite networks include the major banks, financial institutions, companies with many branch offices and oil companies.

"The rise of automated bank teller machines (ATMs) and the prospect of large, shared ATM networks may be one market for Telesat," Mr. Jestin said.

But two new Telesat services are aimed at small business. "Telesat's approach will be to fashion common user services structured so that small organizations can enjoy the benefits of shared facilities."

The first of these services is called Anikom 100. A subscriber to this service uses customer-owned receive dishes and shares one of Telesat's regional uplink dishes.

Because the service uses spread spectrum technology to spread computer data signals over a wider frequency band width, there is more efficient use of the satellite channel, also shared with other users.

Total monthly charges depend on the data transmission speed sought by the user, ranging from a slow 45 bits per second to 19.2 kilobytes per second. For $1,000 (Canadian) a month, users can send data across Canada at a transmission rate of 75 bits per second; the faster rate of 1,200 bits per second costs $6,800.

A network operating at 600 bits per second with 50 earth stations would cost $93 a month per node, regardless of where the nodes were installed. In comparison, a 200-mile link on a terrestrial private line between Windsor and Toronto would cost $350 per month.

Users can use short-haul terrestrial lines to send data to the shared uplink dish.

Each node on a customer's network is equipped with a small satellite antenna (about 1.2 metres in diameter) and a desktop controller that attaches to a microcomputer or other terminal device. The controller functions as a modem and multiplexer.

"We believe the real future in satellite communications lies in the use of VSAT, or very small aperature terminals, technology," Mr. Jestin said. As the size of the terminals decrease, the cost falls.

Currently, each terminal and dish costs about $6,000.

Telesat is also exploring the construction of Teleports in large centres. The first such shared antenna park will likely be built in downtown Toronto.

But Telesat is going to face stiff competition from the telephone companies, which are not anxious to see their private line customers switch to satellites.

In its decision rejecting CNCP's application for long-distance competition, the Canadian Radio-Television and Telecommunications Commission ordered the telephone companies under federal jurisdiction to allow the resale and sharing of their private line networks.

Both Bell Canada and British Columbia Telephone Co. Ltd. filed new rates for their private line services which include substantial reductions that increase over the distance of the hookup.

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CANADA

MITEL, TRILLIUM TELEPHONE MARKETING EXAMINED

Mitel Marketing Plans

Toronto THE GLOBE AND MAIL in English 13 Mar 86 p B14

[Article by Lawrence Surtees]

[Text]

Mitel's new owner hopes to restore it to profitability by stepping up direct marketing efforts in the United States.

However, Deryk Vander Weyer, Mitel's newly elected chairman, would not predict when the company might return to the black. It has had losses in nine of the past 11 quarterly periods totalling more than $110-million.

"Although we (the directors) have a duty that encompasses getting the company to return to profitability, we cannot attempt to record a short-term profit at the expense of the company's integrity and its research and development program," said Mr. Vander Weyer, who is also deputy chairman of British Telecommunications PLC of Britain.

British Telecom acquired a 51 per cent interest in Mitel Corp., which is based in Kanata, Ont., on Tuesday, paying $322.1-million for more than 40.2 million treasury shares. The bulk of the payment will be used to retire debt.

Mr. Vander Weyer indicated that the new owner will proceed cautiously with belt-tightening. He likened the task facing British Telecom to a "balancing act."

"Profit will not simply come about by cutting costs, which, if taken to extremes, can ruin the integrity of a high-technology company. We think we can also greatly increase sales, partly by developing future products, by taking new products to market and marketing current products more aggressively."

British Telecom has targeted the U.S. market for greater attention and will have to intensify its direct marketing there, Mr. Vander Weyer said. "We admitted that there has been some weakness with Mitel's positioning in the United States, and those problems will be overcome."

He expects the British Telecom takeover to translate into higher revenue for Mitel. He said Mitel had lost many potential customers because of doubts about its financial future.

Trillium Growth Rate

Ottawa THE CITIZEN in English 11 Mar 86 p F7

[Article by Louise Dickson]

[Text]

"We're going like gangbusters as profits rise," boasts an excited Michael Latreille.

The chief financial officer for Trillium Telephone Systems Inc. claims the company, which manufactures sophisticated electronic telephones, has the highest growth rate of any high-technology company in Kanata.

But Graeme Kirkland, president of Toronto's Third Capital Corp. and editor of *The Canadian Technology Investment Letter*, says Trillium has the highest growth rate of any high-tech company in Canada.

In the three months ended Nov. 30, 1985, Trillium showed a growth of 548 per cent over the same three months in 1984, said Kirkland.

Trillium Telephone Systems Inc. was founded in September 1983 by president Gratham Neathway and executive vice-president Paul Wilker, two Mitel vice-presidents.

Neathway, then vice-president of engineering for the small systems group, and Wilker, then vice-president of product management, wanted to concentrate on the telephone system needs for small business. The product would require different marketing and management from Mitel's other products.

Mitel was receptive to the idea of setting up a subsidiary, invested the original $12 million and now retains a 70-per-cent ownership of Trillium. The remaining 30 per cent is owned by outside investors and company employees.

In March, Trillium received a repayable research and development grant from the Department of Regional Industrial Expansion worth up to $1.72 million from the federal government.

Trillium's phones are geared to the need of small businesses, banks, restaurants, retail stores and professional offices.

Its first product was the TalkTo 109, a telephone system that handles up to five extensions and four intercom units on a single telephone line. The 109 can be programmed to provide security and energy management functions such as automatic light and appliance controls.

The product was not successful in North America where cordless telephones and single line sets were much cheaper, but sold very well in international markets of Sweden, India and Asia.

Trillium's new, more successful, key systems products include TalkTo 1032 which has 10 outside lines and 32 extensions; TalkTo 616 with six outside lines, 16 extensions; TalkTo 308, three outside lines, with eight extensions and the TalkTo 208 with two outside lines and eight extensions.

The phones have speed dialing, conferencing, paging and holding features.

Because Trillium's market is dealers, Latreille attributes a great part of the company's success to its marketing support program and the co-operative advertising system with dealers.

There are 40 authorized Trillium dealers in Canada, selling to Alberta Government Telephones, Edmonton Telephones, British Columbia Telephone, Maritime Telegraph and Telephone and Northwest Telephone.

There are 300 dealers in the U.S. including Centel, Ohio Bell, Wisconsin Bell, Illinois Bell, Michigan Bell, GTE and J.C. Penny.

Latreille claims the quality of the products is the main reason for Trillium's strong showing.

"We have an annual return rate of 2.5 per cent compared to 8 to 10 per cent for other companies. It's probably the best quality of any key telephone system," he says.

In the 1985 fiscal year, Trillium had $14.8 million in sales. In the first three quarters of the 1986 fiscal year, Trillium had $37.5 million in sales.

Latreille says he thinks sales for the full 12 months will be in excess of $50 million. He's predicting a growth rate in excess of 25 per cent for the fiscal year 1987.

The company lost $743,000 in fiscal 1985, but in the first nine months of 1986 it showed an after-tax profit of $3.4 million.

Latreille says company strategy is to firm up the dealer base to make it stronger than it is now.

"We aim to get more dealer loyalty," he says.

In Asia, Trillium's strategy is to move into the Hong Kong market and the individual marketplace in China.

The company has applied to receive British Telecom approval to sell key systems in the United Kingdom and is now talking with companies in France and Italy to get their system licenced.

Trillium's main competitors are AT&T, Tie/Communications Inc., Executone and NEC.

Currently, Latreille says Trillium is listed as number seven in the U.S. and number two in Canada, behind Tie/Communications Inc.

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CANADA

USED TELEPHONE EQUIPMENT SOLD TO CHINA

Vancouver THE SUN in English 3 Mar 86 p B8

[Text]

British Columbia Telephone Co.'s Chinese connection is helping the company gain a foothold in a profitable new market.

Telecommunications Services International, an overseas marketing arm, was estalished by B.C. Tel two years ago in an attempt to diversify as competition developed on the domestic market.

TSI recently signed a $30-million deal to sell used switching equipment to mainland China.

China, with more than a billion people, has fewer than five million telephones. By comparison, there are about 16 million phones in Canada.

U.S. companies, along with government-controlled telephone firms in Europe, have moved quickly in the last two years to take advantage of the opportunities in China.

"The competition has been tremendous ... cutthroat, in fact, but we've made some good friends and we have some strong advantages," said Jim McIlwaine, managing director of Telecommunications Services.

TSI's ability to draw on the experiences of the significant number of Chinese people in B.C. Tel has allowed it to win the trust of officials in China, said McIlwaine.

"We have people who can speak the two languages — Mandarin and Cantonese and we have these people in all areas of the company, from marketing to information services."

When dealing with technical matters, said McIlwaine, speaking the language is important.

"I can smile a lot, go to a lot of banquets, but there's not a lot I can do. In our company, we have people who understand our network, understand the Chinese culture."

The contract for switching equipment for 500,000 telephone lines was signed with Chinese officials in Guangzhou (formerly Canton), Vancouver's sister city.

McIlwaine said the Chinese had initially been reluctant to buy what he calls displaced equipment. But he said they were eventually convinced that buying the used equipment would allow them to stay within their financial constraints.

"It's a significant saving to them and its good for another 20 years or so."

TSI has a staff of 12, involved primarily in marketing.

"It's really a small investment for a potentially large return," said McIlwaine.

TSI also is discussing with Thailand, Sri Lanka and Indonesia the possibility of acting as consultant to the state-operated telephone systems in those countries.

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CANADA

CRTC HEARING TO CONSIDER BROADCAST OWNERSHIP ISSUES

Toronto THE GLOBE AND MAIL in English 15 Mar 86 pp B1, B4

[Article by Edward Greenspon]

[Text]

The highly profitable Canadian broadcast industry will begin to find out on Monday just how relaxed the federal communications regulator has become toward the old bugaboos against corporate concentration in broadcasting and cross-ownership of newspapers and electronic media.

The outcome of a high-profile hearing before the Canadian Radio-Television and Telecommunications Commission in Montreal could further accelerate the already quick pace of consolidation of media ownership in Canada.

CRTC commissioners will consider arguments from Power Corp. of Canada that it be granted permission to buy Télé-Metropole Inc. If that deal is approved, Power Corp. chairman Paul Desmarais would be at the helm of Montreal's largest commercial television station and its second-largest French-language newspaper, La Presse.

Power's application, virtually unthinkable in the Kent Commission days of the early 1980s, is the most striking example of a new era of dealmaking in the communications industry.

"We're at a stage where you can drive a transport truck through what used to be the hard and fast rules of the commission," said Peter Legault, a media specialist and partner in Pollitt Legault & Co. Inc. of Toronto. "Right now, I would advise anybody to take a run at it because the commission is so wide open."

Few expect the CRTC to tighten up under what various analysts call its new laissez-faire approach to regulation. Under the chairmanship of Andrè Bureau, the commission has displayed more concern with matters such as the financial strength of applicants than with concentration or cross-ownership.

The Conservative Government signalled support for this approach last May by cancelling, without comment, a 1982 Cabinet directive that the CRTC focus on cross-ownership in its deliberations.

The directive is known to have been applied just once during its short life, in a 1983 case involving the broadcast licence of New Brunswick's Irving family, widely thought to be the most pronounced case of media cross-ownership in Canada.

K. C. Irving and his two sons own all four major newspapers in New Brunswick and one of two television systems, as well as interests in transportation, pulp and paper, mining and petroleum. Last September, the CRTC quietly extended the Irvings' licence for a further two years without commenting on cross-ownership.

David McKendry, regulatory industries analyst with the Consumers Association of Canada, said the CRTC's message to the Irving group in 1983 — to "rearrange its affairs" within 27 months — amounted to just a rap on the knuckles in any case. The commission was relieved to have the directive withdrawn, he said.

"It was as good as telling the industry that cross-media ownership is fine, and concentration of ownership is fine, and this Government isn't concerned about them."

Media magnates — from Power's Mr. Desmarais to the Bassett and Eaton families of Baton Broadcasting Inc. to Allan Waters of CHUM Ltd. — are receiving the CRTC's signals loud and clear and are expanding their operations through acquisition.

The rewards from increasing their stakes in broadcasting are considerable. Most of Canada's 79 private television stations are living up to the reputation that ownership is a licence to print money, returning after-tax profits in 1984 of $89.3-million.

Broadcasters' average return on equity — which is calculated along with radio staions, usually less profitable than TV — was 18 per cent.

Communications lawyer Charles Dalfen, former vice-chairman of the CRTC, said there has been a subtle shift in broadcast regulation in Canada and the United States. Instead of the onus being on applicants to prove why concentration will not be harmful, the burden is on opponents having to make a strong case for interfering with a commercial arrangement.

The CRTC seems to be balancing off the concentration trend somewhat, he said, by trying to issue more broadcast licences.

"What does appear to be clear is that there are an increasing number of big players in the game and a decreasing number of small Ma and Pa shop operations."

Among the victims of the trend is one of the pioneers of Canadian broadcasting. William Plaunt, president of United Broadcasting Ltd. of Sudbury, won Canada's first private television licence in 1953.

He said he is getting out of broadcasting because of the dominance of Mid-Canada Communications (Canada) Corp. in Northern Ontario. In Sudbury alone, Mid-Canada owns the CTV and CBC affiliates, the cable company and three radio stations the CRTC let it buy last year.

"You might say we got squeezed a little bit," Mr. Plaunt said of his remaining two radio stations, whose sale only awaits CRTC approval.

The CRTC no longer values local ownership, he said. Through subsidiaries, Mid-Canada is controlled by CUC Ltd. of Scarborough, a major cable operator in Southern Ontario.

Certainly, the bigger players seem to do best in broadcasting. The largest 10 per cent of broadcasters, by assets, accounted for about 40 per cent of revenues and 80 per cent of profits in 1984, according to Statistics Canada.

In Saskatchewan, Baton has gobbled up three of its four private television competitors in the past few months. The concentration is designed to strengthen existing operators at the expense of an expected new television station in Regina.

A number of years ago, John Bassett, until recently chairman of Toronto-based Baton, told an interviewer: "If I had unlimited wealth and the CRTC would let me have all the electronic media I wanted, I'd be a real pig."

In 1984, before Baton's acquisition streak, Saskatchewan broadcasters were raking in a phenomenal 40 per cent return on equity. But Baton and minority partner Harvard Developments Ltd., owned by Regina's powerful Hill family, have complained that the market is not rich enough to support an additional station.

David Bond, president of the Canadian Association of Broadcasters, said the degree of concentration in Saskatchewan — and elsewhere — is not cause to worry "that you're getting something equivalent to Pravda.

"I would be concerned if all the broadcasting outlets and all the newspaper outlets were controlled by one source, but I don't think that is the case."

Just how far the CRTC agrees with Mr. Bond will be demonstrated in the Power Corp. case.

Michel Perrault, a Montreal-based communications analyst with Alfred Bunting & Co. Ltd. of Toronto, said it is the strongest test yet of the CRTC's attitude toward cross-media ownership. He believes Power Corp. was emboldened to make the purchase after seeing the CRTC grant a licence for a new French-langauge TV station in Montreal to CFCF Inc., which already owned a TV station, two radio stations and a cable company in the city.

Mr. Desmarais' conglomerate is trying in advance of the hearing to minimize the cross-ownership issue before the commission. While the key conflict between owning Télé-Metropole's CFTM-TV and La Presse remains in Montreal, a complicated transaction would lessen Télée-Metropole's influence over broadcasting in Sherbrooke and Trois-Rivières, where Power Corp. also owns daily newspapers.

The deal revolves around Pathonic Communications Inc., operator of the two TV stations. Pathonic, 33.5 per cent owned by Télé-Metropole, in turn owns 6 per cent of the equity and 46.8 per cent of the voting shares of publicly traded Télé-Capital Inc. of Ste-Foy, Que. Télé-Capital owns two TV and two radio stations in Quebec City, a TV station in Rimouski and a radio station in Laval.

Télé-Capital is proposing a reverse takeover of Pathonic. Rather than its significant television holding in Sherbrooke and Trois-Rivières, Télé-Metropole — and therefore Power Corp. — would be left with just 10.3 per cent of the enlarged Télé-Capital.

More important for the CRTC — which cares more about control than ownership — Télé-Metropole would see its voting shares in Télé-Capital fall to 4 per cent from 15.7 per cent.

Although Paul Vien, chairman of Télé-Capital, said the deal is "totally unrelated" to the Power Corp. situation, other observers believe it shows some sensitivity by Power Corp. to the cross-ownership issue.

Despite the CRTC's new light-handed disposition, the commission has said cross-ownership will be discussed at the Montreal hearing. With the most extreme case yet before it and a sprinkling of commissioners recently issuing rare dissents to decisions that increased concentration, some analysts are not convinced the outcome is a foregone conclusion.

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CANADIAN ASTRONAUTICS LAUNCHES NORTHERN LIGHTS STUDY

Ottawa THE CITIZEN in English 11 Mar 86 p F13

[Article by Amy Jo Ehman]

[Text]

After 11 years of planning, studying and designing high technology products, Ottawa's Canadian Astronautics Ltd. is finally where it has always wanted to be.

In outer space.

On Feb. 21, the company sent its first outer space payload into orbit on board the Swedish satellite *Viking*, rocket-launched from the European Space Agency's launch site in the jungle of French Guiana.

The $4-million project, funded by the Canadian National Research Council's Canada Centre for Space Science and launched on the *Ariane* rocket, is comprised of two ultraviolet cameras that will photograph the northern lights.

Scientists will use the information gathered to learn more about the northern electrical phenomenon — why it disrupts radio communications and if it has an effect on the climate.

The first photographs began arriving in early March and the project has brought international recognition to the small Ottawa firm, which employs about 300 people.

"That contract was a monumental event for the company because eventually that's what we wanted to do — to build stuff for space in competition with SPAR Aerospace," said Vinit Nijhawan, marketing and sales manager of the company's space group.

The company was started by three engineers, James Taylor, Bill Cox and Michael Scott in 1974, after the trio left Telesat Canada.

At Telesat they worked together on Canada's Anik satellite, which was successfully launched in 1973.

The first projects were of a consulting nature, until the company landed contracts from Canada and the United States in 1979 to develop a ground terminal for the satellite-aided search and rescue system (SARSAT). The system revolutionized rescue operations of aircraft and boats by using a satellite to pinpoint distress signals.

The company has had an average annual growth of 30 per cent and has shown a profit every year. Although profit figures are not released, Nijhawan says 1985 sales were about $20 million and he is projecting sales of $30 million in 1986.

The success of the *Viking* project led to additional contracts with Sweden, and a $3-million contract with Britain for a light weight, collapsable antenna, unique because it can both transmit and receive signals, for use on military communication satellites.

The company is working on several space shuttle-related projects and has begun studies for experiments aboard a U.S. space station scheduled for operation by the 1990s. It has also introduced a new series of high-technology products in the fields of defense electronics and military training.

Sixty per cent of sales are domestic, but, says Nijhawan, "a good part of that business is for joint projects involving outside agencies, or with outside countries."

The firm had to struggle to get some initial contracts with the Canadian government, Nijhawan said.

CAL's opportunity to show the federal government it could compete with SPAR Aerospace came in 1983 when the government tendered a joint project with NASA to be launched as part of a shuttle-based space plasma laboratory in 1989.

"(SPAR) came up with a cost in the $20-million range . . . CAL came in with a price of $14.5 million."

"There's going to be so much business in the future that there aren't going to be enough (qualified) people to do it."

/9274
CSO: 5520/71

GOVERNMENT TAKES FIRST STEP IN BROADCASTING PRIVATIZATION

FL071812 Bridgetown CANA in English 1643 GMT 7 Apr 86

[Text] Kingston, 7 Apr (CANA)--Gloria Lannaman, general manager of the state-owned Jamaica Broadcasting Corporation (JCB) for the past three years, was transferred today to the prime minister's office to take charge of government's plan to privatize the corporation and develop a second television channel.

Garth Rose, who has been acting as JBC general manager since late last year because of the illness of Mrs Lannaman, continues in that position, the prime minister's office announced.

The government says it will lease the morning section of JBC Television Service to private operators, but would retain 25 percent shareholding.

It would also lease JCB's AM radio and three regional stations on the same basis, while it would maintain full control over JBC FM service.

The government plans also to develop a second television channel devoted to public affairs and high quality entertainment and to eventually privatize all of the existing television channels. It will also sell the 25 percent shares the government holds in the second radio station here, RJR.

The policy was announced in mid-1985 and Lannaman's appointment has been the most significant development since then towards implementation.

JBC's credibility has been questioned under successive administrations and it has been accused of blatant partiality to government in its reporting.

/9274
CSO: 5540/055

BRIEFS

DIGITAL EQUIPMENT FROM ERICSSON--Ericsson's Mexican subsidiary company (Teleindustria Ericsson SA) has received an order with a total value estimated at 502.5 million [Swedish] kronor for delivery of analog and digital transmitting equipment to the Mexican telecommunications authority (TELMEX). The orders for transmitting equipment are worth 330 million kronor, including analog FDM equipment, as well as a digital 30-channel PCM multiplex system, with some 800 so-called line repeaters and 6,900 line terminals. [Text] [Helsinki HUFVUDSTADSBLADET in Swedish 13 Mar 86 p 12] /6662

CSO: 5500/2037

AFGHANISTAN

BRIEFS

PAKTIA PROVINCE TV ESTABLISHED--Kabul, 23 Mar (BAKHTAR)--About two hundred workers have been organized in the Council of Trade Unions of Paktia Province, bordering Pakistan. Four primary organizations of trade unions and three unions of craftsmen have been newly established in that province during the last Afghan year (ending 20 March 1986). Trade union primary organizations are being organized in many towns and villages of the province. Right now about 60 such organizations are functioning throughout that province. [Text] [Kabul BAKHTAR in English 0424 GMT 24 Mar 86 LD] /9274

NEW RADIO STATION--Kabul, 22 Mar (BAKHTAR)--A new radio station under the name of Afghan "The Voice of Afghans" has started broadcasting from Kabul in Dari and Pashto languages on the first day of the new Afghan year (begun 21 March, 1986). This radio station is devoted to reflect the present day socio-political and cultural life of the people and will broadcast programs for four hours daily. Eleven provincial radio stations along with three big radio stations in the capital are functioning throughout the country at present. These radio stations are broadcasting 83 hours round the clock [as received] whereas during the pre-revolutionary years it was only 20 hours a day. The state of the DRA plans to increase the radio broadcasting up to 150 hours daily within the next five years. [Text] [Kabul BAKHTAR in English 0433 GMT 23 Mar 86 LD] /9274

CSO: 5500/4730

OFFICIAL SPEAKS AT TELECOMMUNICATIONS CONFERENCE

Network Panels

Calcutta THE SUNDAY STATESMAN in English 16 Mar 86 p 16

[Excerpt] Addressing a conference on the Integrated Development of the Telecommunications Sector, Mr S. Ravi, Joint Secretary of the Department of Electronics, Government of India, said in Calcutta on Saturday that two working groups were being set up by the Centre to recommend an integrated communications network in the year 2001, and for providing a business communications network for the transfer of data and the exchange of messages, without voice, through satellites. He said that initially the network would cover 100 towns of the country, each linked to the network by either Very High Frequency (VHF) or Ultra High Frequency (UHF) wireless sytems.

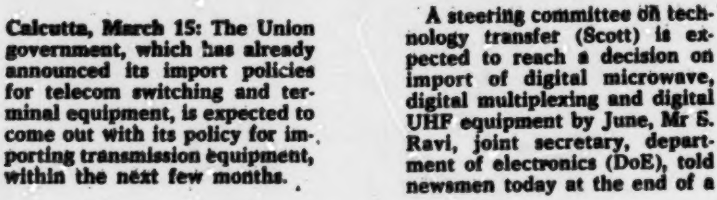
Mr Ravi said the Union Government had decided to grant letters of intent to private sector units for manufacturing components and equipment. He added that private entrepreneurs would have to satisfy certain minimum conditions specified by the Centre for Development of Telematrix for obtaining manufacturing licences.

Delivering the keynote address, Mr Rajive Kaul, chairman, Association of Indian Engineering Industry (Eastern Region), said that for the growth of professional telecommunications equipment in the country, a strong base for the indigenous manufacturing of professional components was essential. He said that while the Government had recognized this factor, there still remained some contradictions in its policies which needed to be rectified.

Telecom Import Policy

Calcutta THE TELEGRAPH in English 16 Mar 86 p 4

[Text]



Calcutta, March 15: The Union government, which has already announced its import policies for telecom switching and terminal equipment, is expected to come out with its policy for importing transmission equipment, within the next few months.

A steering committee on technology transfer (Scott) is expected to reach a decision on import of digital microwave, digital multiplexing and digital UHF equipment by June, Mr S. Ravi, joint secretary, department of electronics (DoE), told newsmen today at the end of a national conference on integrated development of the telecommunications sector. The conference was organised by the Association of Indian Engineering Industry (AIEI) here.

The government is also in the process of evolving a graded import duty structure for raw materials, components and finished products, among other things. The structure will be rationalised so that raw materials attracted the lowest duty and finished products the highest, Mr Ravi said.

The government would also periodically review the OGL list for electronic components. It would consider taking a component being manufactured indigenously off the OGL list from time to time.

"We want to make a cost analysis of end products and DoE might undertake a study along with the DGTD and concerned manufacturers. We are considering proposals to see that indigenous production can be comparable pricewise in the international market," Mr Ravi said.

He said a working group was being constituted to draw up a perspective master plan for an integrated telecommunications network for 2001. "It will decide on how we go from here to the 21st century," he explained.

Another working group was being constituted for developing a business communications network through satellites by establishing low cost earth terminals in 100 towns, essentially for data transmission and exchange of business information, Mr Ravi added. The technical feasibility of setting up such a network and the issue of indigenous manufacture would have to be gone into. The exercise should not take more than three years.

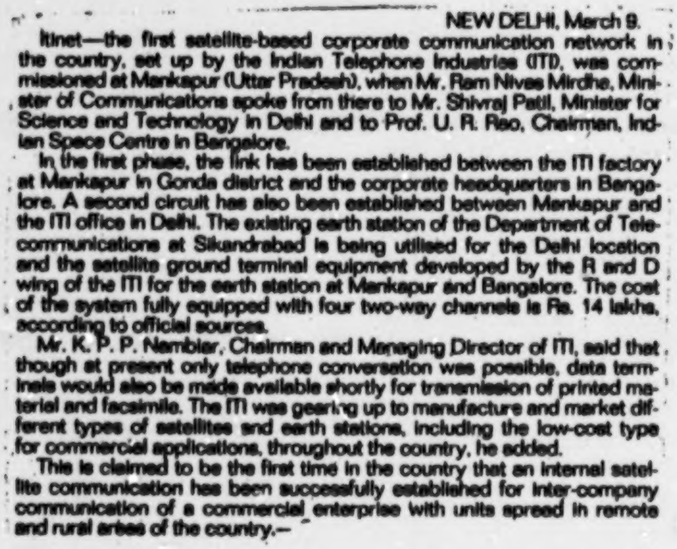
Regarding the manufacture of electronic switching systems, Mr Ravi said no final decision had yet been taken on who ITI should collaborate with for manufacturing ESSs at the Gonda factory. CIT-Alcatel of France, which is ITI's collaborator at its first ESS factory at Mankapur, might also be chosen for the Gonda factory. The factory might even come up with C-DoT technology.

/9317
CSO: 5550/0102

SATELLITE-BASED CORPORATE COMMUNICATIONS SYSTEM LAUNCHED

Madras THE HINDU in English 10 Mar 86 p 9

[Text]



NEW DELHI, March 9.

Itinet—the first satellite-based corporate communication network in the country, set up by the Indian Telephone Industries (ITI), was commissioned at Mankapur (Uttar Pradesh), when Mr. Ram Nivas Mirdha, Minister of Communications spoke from there to Mr. Shivraj Patil, Minister for Science and Technology in Delhi and to Prof. U. R. Rao, Chairman, Indian Space Centre in Bangalore.

In the first phase, the link has been established between the ITI factory at Mankapur in Gonda district and the corporate headquarters in Bangalore. A second circuit has also been established between Mankapur and the ITI office in Delhi. The existing earth station of the Department of Telecommunications at Sikandrabad is being utilised for the Delhi location and the satellite ground terminal equipment developed by the R and D wing of the ITI for the earth station at Mankapur and Bangalore. The cost of the system fully equipped with four two-way channels is Rs. 14 lakhs, according to official sources.

Mr. K. P. P. Nambiar, Chairman and Managing Director of ITI, said that though at present only telephone conversation was possible, data terminals would also be made available shortly for transmission of printed material and facsimile. The ITI was gearing up to manufacture and market different types of satellites and earth stations, including the low-cost type for commercial applications, throughout the country, he added.

This is claimed to be the first time in the country that an internal satellite communication has been successfully established for inter-company communication of a commercial enterprise with units spread in remote and rural areas of the country.—

/9274
CSO: 5550/0100

INDIA

BRIEFS

REMOTE SENSING AGENCY--New Delhi, March 13--The ground station of the National Remote Sensing Agency is being upgraded to handle data from the Indian remote sensing satellite proposed to be launched later this year by a Soviet launch vehicle. The department of space is trying to build the infrastructure for generation of geographic data base from remote sensing data and integrate the same with the National Resource Information System (NRIS) data base to form a National Natural Resource Management System (NMRMS). [Text] [Bombay THE TIMES OF INDIA in English 14 Mar 86 p 7] /9317

CALCUTTA MICROWAVE LINKS--Calcutta, March 13--Telephone cables in the city will soon be replaced by microwave links, optical fibres and cement ducting to avoid thefts and damage of cables due to indiscriminate digging by civic agencies, Mr Ram Niwas Mirdha, Union minister of state for communications, said here today. He said six microwave systems were already functioning in the city and 24 more would be installed soon. Cement ducting had been completed on a 53-km stretch at the cost of Rs 15 lakh per km. There are plans to duct 25 km more in the near future. Mr Mirdha said optical fibres, the latest in transmission technology, had also been sanctioned for Calcutta. Four electronic telephone exchanges will be set up, two in the BBD Bag area and two on Chittaranjan Avenue. Expressing concern over the increasing theft and damage of cables in the city, Mr Mirdha said he had written to the chief minister, Mr Jyoti Basu, for setting up an inter-utility committee, comprising representatives of civic agencies, to discuss how damage of cables during digging can be avoided. He, however, said he was yet to receive any response from the chief minister. He said it was a very serious issue and insisted that a formal committee be set up to monitor the work of civic agencies. He said Calcutta has the highest all-India average of cable thefts and called for better policing. [Text] [Calcutta THE TELEGRAPH in English 14 Mar 86 p 1] /9317

INDO-ZIMBABWE TELECOM COOPERATION--Harare, March 11. India today signed a Memorandum of Understanding to provide wideranging telecommunication expertise to Zimbabwe, the country hosting the eighth non-aligned summit six months from now. The memorandum signed by the visiting Minister of State for External Affairs, Mr. K. R. Narayanan and Zimbabwean Minister of Information and Telecommunications, Mr. Nathan Shamuyarira, covers exchange of information in the field of telecommunications, providing technical expertise, equipment, know-how and financing of nine experts from Zimbabwe to be trained in India. India has also pledged Zimbabwe five luxury buses. A team of 25 technical staff under a senior expert, Mr Sushil Prakash has been in Zimbabwe for the last 18 months. [Text] [Madras THE HINDU in English 12 Mar 86 p 1] /9274

CSO: 5550/0101

IRAN

BRIEFS

SATELLITE TELEVISION STATIONS--According to a Central News Unit report, a fourth Lorestan satellite station was installed and commissioned in (Emamzadeh Mohammad) village in Kuhdasht district. With a power output of 10 w, the transmitter will broadcast the programs of the first network of the Vision of the Islamic Republic of Iran on channel nine. The inhabitants of [Emamzadeh Mohammad) and 19 other villages in the area, with a total population of 12,290 can now receive first network programs. The new Dorud Second Program Television relay station, with a power output of 10 w, was installed and commissioned by the repairs and maintenance crew of the television and FM transmitters unit of Lorestan. The television relay station will relay the second network programs on channel 12. More than 60,000 inhabitants of Dorud can now receive second network programs with good reception. According to another report, with the installation of a 10 w satellite station, (Mazayjan in Bavanat), in Fars Province, can receive television programs. The installation of this satellite station was carried out by the committed workers of Shiraz Television and FM transmitters unit. The inhabitants of the area can receive first network programs on channel six. [Text] [Tehran Domestic Service in Persian 0730 GMT 13 Mar 86] /9365

TELEVISION RELAY STATION--According to the Central News Unit, a receiver cum relay ground station has been set up and commissioned in (Dozin), in Minudasht, Mazandaran Province to make available to the villages in that area channel one television programs of the Islamic Republic of Iran. It has a power of 10 w. [Text] [Tehran Domestic Service in Persian 0430 GMT 5 Mar 86 GF] /9365

COMMUNICATION SYSTEM CHANGE--Tehran, March 10, IRNA--The Islamic Republic of Iran's communication system will be changed into a satellite system. The Majlis (Parliament) ratified the bill making the change possible in its Monday session. A communications official at the session said the basis of the country's development should be proportionate to today's world technology. He added that the future of the world is the computer, and electronic information systems. Minister of Post, Telegraph and Telephone Mohammad Gharazi agreed with the suggestion saying that expenditures for carrying out the project amounts to three billion rials (dlrs 375 m) which will be settled within the next 3 years. Gharazi said the low expenditure and am ability to rapidly respond to communication needs of various parts of the country made the changeover feasible. He pointed out that only 3,000 out of 70,000 villages in Iran enjoy communication facilities. [Text] [Tehran IRNA in English 1723 GMT 10 Mar 86] /9365

TELEVISION RELAY STATIONS COMMISSIONED--The Central News Unit reports that on the occasion of the New Year the new relay station for the second television network of Aligudarz town has been installed and made operational in the village of Askaran. The report says that the 50-W relay will be transmitting the programs of the second network of the Vision of the Islamic Republic of Iran on Channel 9, providing coverage for some 7,000 people in Aligudarz's 19 villages. In addition, the Khalaj television relay station, Khorramabad region, has been installed and made operational. The 10-W relay station will broadcast the programs of the first network for the area's 17 villages on Channel 9. [Summary] [Tehran Domestic Service in Persian 1030 GMT 21 Mar 86 LD] /7358

CSO: 5500/4732

ACCRA NOTES PROBLEMS FACING SATELLITE EARTH STATION

AB021722 Accra Domestic Service in English 1300 GMT 2 Apr 86

[Text] Ghana's satellite earth station is becoming a white elephant because Star Technology Limited of Canada has failed to provide three major components for which the company has been fully paid. The components are the international telephone switch, a television transmission chain and an automatic tracking system, all worth more than $5 million.

Sources close to the P&T [Posts and Telecommunications] corporation say the contract to install the $14 million satellite earth station at Kuntunso on the Accra-Nsawam road and other accessories was won by NEC [National Electronic Corporation] of Japan. GTE of the United States was second, followed by Star. According to sources, both NEC and GTE offered to undertake the contract on a turn-key basis, which means Ghana should start paying for the cost only as the project had been fully completed. Star, on the other hand, demanded full payment before beginning the project, but the then head of state, late I.K. Acheampong, directed the P&T Board of Directors chared by Dr Sam Diffu, formerly of Ghana Sanyo, to award the contract to Star. Star's local agent at the time, the source said, was Henry Kojo Djaba, now self-exiled in Britain. The source said the Ghana Government accordingly provided $9 million and took a loan of $5 million from the Canadian Export Development Corporation to make up for the difference. The loan is still being repaid.

The international telephone switch, valued at $4 million will enable Ghanaians to dial any part of the world direct, and also indicate the time, date and duration of a call and bill the subscriber automatically. The switch will also provide 250 channels for incoming and outgoing international calls with the potential for raising further increases instead of the present 52 channels.

The sources said Star brought in the switch but was obsolete and did not conform to the specifications of the satellite earth station. The components are still in their containers on the P&T head office compound. In the present situation, overseas calls go through a cumbersome chain of international switchboard operators and subscribers have to wait for days to make successful calls. This causes subscriber congestion, while the P&T loses potential revenue needed to improve its services.

The sources said the television transmission chain would have enabled Ghana to transmit international sporting activities or anniversary celebrations live to interested countries or subscribers abroad for a fee in foreign currency. But the transmission chain provided by Star developed a fault when the satellite station was being commissioned in August 1981, and has since not been fixed, despite the 1 year guarantee offered by Star in the contract.

The automatic tracking system is responsible at the press of a button, for readjusting the earth station dish to focus onto the space satellite which is 36,000 km up in the sky, when the dish goes off course. Without the tracking system, the technicians at the station have to focus the dish manually, by climbing up its mast and often at the peril of their lives.

Star, the sources asserted, does not specialize in telecommunications, so it sublets its contracts to other contractors, such as Cable & Wireless of Britain, (Toronto Iron Works) of Canada to procure or manufacture the various components.

/9604
CSO: 5500/61

TELE-X PROJECT AND NORDIC COOPERATION IN THE SATELLITE FIELD

Oslo TELEKTRONIKK in Norwegian No 3/4, 1985 pp 213-219

[Address delivered at the Norwegian Telecommunications Users Association's seminar in Oslo on 15 January 1985, by John R. Veastad]

[Text] 1. Nordic Cooperation in the Telecommunications Satellite Field

The Nordic telecommunications agencies had already begun a cooperative venture when the first experimental telecommunications satellites, Telstar and Relay, went into orbit in 1962. The objective was to attempt to form common attitudes toward an international cooperative effort in telecommunications, together with a desire to prepare for the new technology. Swedish Telecommunications Agency General Director Håkan Sterky took the initiative and this quickly led to results. The telecommunications agencies formed a cooperation committee, the Scandinavian Telecommunications Satellite Committee, STSK, in 1961. It was later expanded into the NTSK, the Nordic Telecommunications Satellite Committee, when Finland joined the joint venture.

Råö [Rå Island]

In order to gain practical experience with the new technology, STSK established a cooperative effort with Chalmers Technical College, where Professor Rydbeck was the driving force, to obtain a receiving station with a 29-m-diameter antenna. This was set up on Råö in 1964 and partook in a number of international transmission experiments.

Tanum

After an intense international joint effort led by the USA, an international agreement was signed in 1964 regarding the formation of INTELSAT (International Telecommunications Satellite Organization). From a cautious beginning with "Early Bird" the organization now 20 years later has 16 satellites in orbit with the capacity to transmit about 150,000 telecommunications. Six hundred and fifty earth stations are affiliated with the INTELSAT operation.

It was natural for the Nordic telecommunications agencies to build a joint earth station for telecommunications traffic over the Atlantic Ocean. The earth station at Tanumshede, Sweden, was initiated in 1971. Today the station has two antennas with diameters of 29.5 and 32 meters, respectively. A total of about 900 telecommunications are transmitted between the Nordic countries and countries in the western hemisphere. Additional traffic capacity is being made available for the western and also the eastern hemisphere in cooperation with the Netherlands and Great Britain.

Eik

Norway of course had major interests in the INMARSAT (International Maritime Satellite Organization) international organization, which is to relay communications between ship and shore and between ships via satellites. In 1980/81 the Norwegian Telecommunications Agency built a new earth station associated with the installation at Eik.

In accordance with an agreement entered into between the Nordic telecommunications administrations (Denmark, Finland, Norway and Sweden) in the fall of 1976, these countries conduct their maritime satellite traffic for the Indian Ocean through the Eik station. Operating costs, including interest and depreciation, are divided in proportion to traffic. In addition, the Nordic countries have cooperation agreements with Singapore and Great Britain for conducting traffic via the INMARSAT system's transponders over the Atlantic and Pacific oceans.

Ågestad

The Nordic telecommunications administrations also have a cooperation arrangement regarding the earth station at Ågestad near Stockholm in affiliation with the European Telecommunications Satellite Organization, EUTELSAT.

In addition to the transmission of telephone calls and data transmission traffic, the station is also to transmit programs which are broadcast under EBU's production for distribution over links, to Oslo, among other places.

2. Industrial and Research-Related Activities

An industrial policy report was prepared by the Nordic countries' industry ministries in connection with the latest report on NORDSAT (which was presented in 1980). The conclusion was that NORDSAT should provide a basis for the development of Nordic industry and that the conditions ought to be put into order for this development.

On Sweden's part the initiative was taken to develop a satellite which could form the basis for a later NORDSAT cooperative effort. The Swedish plan was given the name TELE-X. It is to the effect of launching an experimental telecommunications and broadcasting satellite which can later be put into experimental operation (preoperational service). The main objective is to develop direct TV broadcasts and data communications with small earth stations (business communications).

On Sweden's part it was believed that it was possible to implement TELE-X within a budget of 1.25 billion SEK [equivalent Swedish kroner] (January '82).

In a letter dated 14 September 1982 from the Swedish industry minister, Norway was invited to take part in the main project with 325 million SEK (26 percent). After negotiations between the two countries Norway's share was set at 187.5 million SEK (15 percent). The agreement papers were signed on 11 April 1983 on Norway's part by Industry Minister Jens Halvard Bratz and General Director Kjell Holler.

3. Government Agreement of 1983

The agreement was the result of time-consuming and complicated negotiations. It forms the basis for a longterm cooperation arrangement between Norway and Sweden in the telecommunications satellite field. The TELE-X project is the first project within this cooperation arrangement. The agreements provide an opportunity for other Nordic countries to join.

The agreement provides the fundamental political basis for a future cooperative effort between Norway and Sweden in the telecommunications satellite field. The aim is to build up jointly competence, know-how and industrial competitiveness in the field, as well as to derive advantages from the practical accommodations which satellite technology makes possible.

The structure of the agreement is shown in fig 1 [not reproduced].

The following agreements, protocol and appendixes are included:

Agreement between the government of Norway and the government of Sweden regarding cooperation in the telecommunications satellite field with appendixes.

By-laws of the Nordic Telecommunications Satellite Consortium.

Stockholders agreement for a purchasing company under Swedish law.

Stockholders agreement for an operating company, NOTELSAT, under Swedish law.

A guarantee agreement between the government of Norway and government of Sweden regarding fulfillment of obligations for going through with TELE-X.

Protocol concerning the understanding of certain items in the agreement between the two governments.

Project agreement concerning TELE-X with the following appendixes:

Technical description of TELE-X.

Industrial policy preconditions for TELE-X.

Financing and payment plan for TELE-X.

The organized cooperative effort is, accordingly, to take place in the future within the framework of a consortium: the Nordic Telecommunications Satellite Consortium, with the following organs:

The assembly, which consists of six representatives from each country. It is to constitute an advisory organ with the duty of issuing statements regarding the management's plans concerning the accomplishment of joint projects and, thereby, communications policy, industrial policy, media policy and other factors.

The consortium board of directors is to consist of two representatives from Norway and four representatives from Sweden together with their personal deputies. It has extensive duties like, among other things, taking the measures which are required for the purpose of the cooperative effort's being achieved. The board of directors is to develop proposals for new projects over and beyond the TELE-X project with a view toward submission to the countries' governments. The board of directors can also draw up top-level directives for the activities of the consortium and the stock companies.

The purchasing company (Nordiska Satellitaktiebolaget [Nordic Satellite Corporation]) is led by a board of directors which is identical with the consortium's board of directors. Shares in the company are owned 15 percent by Norway and 85 percent by Sweden.

The company is, within a set time frame and cost budget, to buy up the TELE-X satellite and put it into operation in orbit; buy up the earth segment; and also enter into an agreement with the Swedish Rymdbolaget [Space Corporation] regarding putting TELE-X into operation in orbit and regarding project leadership and control of the satellite in orbit (TT&C). After this, Rymdbolaget will itself lead the TELE-X project and be in charge of the purchase of TELE-X and other "project-specific" equipment.

The operating company (Nordiska Telesatellittaktiebolaget [Nordic Telecommunications Satellite Corporation] = NOTELSAT) is to be the executive organ in the future cooperative effort regarding operational telecommunications satellite projects. The company is registered as a Swedish corporation and is owned by the two countries' telecommunications administrations with equally large shares. The company, which has its headquarters in Stockholm, is led by a board of directors consisting of four members and two deputies (three from each telecommunications administration).

4. NOTELSAT

Since the NOTELSAT operating company is the most interesting in this context, we will go in greater detail into its agreement basis, objective and functions.

Objective

It reads in the by-laws that "the company will have as the objective of its activities the development, buying up, selling and responsibility for the operation of telecommunications satellite systems, as well as the performance of other activities consistent with this."

Basis

NOTELSAT's activities are to be primarily based on the existing agreement, i.e.:

The government agreement of 11 April 1983.
The stockholders agreement.
The company by-laws.
The cooperation agreement with Rymdbolaget.

The most important thing about NOTELSAT is that it is to be /the executive organ for future cooperation in operational telecommunications satellite projects/ [in italics]. Especially on Norway's part, the misunderstanding seems to have spread that NOTELSAT is entirely bound to TELE-X and the Swedish Rymdbolaget. In this connection one can point to the fact that the TELE-X project "is included as a first project" in the Norwegian-Swedish cooperative effort, and those terms which are the result of a separate project agreement apply to this project. In other words, new satellite projects--such as a supplement to TELE-X in order to obtain an operational telecommunications satellite system--must presuppose total Norwegian-Swedish (or possibly Nordic) agreement, as well as a new project agreement. Without such follow-up agreements the government agreement itself can perhaps be said to have reduced value.

The tie between NOTELSAT and Rymdbolaget is given in a subappendix to the government agreement in the form of a "cooperation agreement between the telecommunications administrations' operating company (NOTELSAT) and the Swedish Space Corporation (Rymdbolaget) concerning future telecommunications satellite projects." In this it reads:

1. NOTELSAT is to buy up, own and be responsible for the operational management of telecommunications satellite systems as covered by the above-cited government agreement regarding cooperation in the telecommunications satellite field.

2. NOTELSAT shall to the extent that it is to the advantage of both parties for future cooperation projects in the telecommunications satellite field in the North assign the Space Corporation the task of being responsible for buying up and project leadership of the space segment, as well as the control of satellites in orbit, in accordance with separate agreements for each project.

3. NOTELSAT shall, in entrusting duties in accordance with paragraph 2 above, have the right to direct the Space Corporation regarding the utilization of Norwegian competence in the field of space.

These three points can be considered very central both for NOTELSAT and for a balanced Norwegian/Swedish cooperative effort as regards the establishment and management of future telecommunications satellite systems and as regards industrial activities in this field in the two countries.

NOTELSAT is therefore now in a buildup phase in order to acquire competence and strength to achieve technically justifiable growth and to carry out an independent assessment of the future telecommunications satellite system before it ties itself to new projects.

Functions

NOTELSAT has hitherto been occupied with specification of the communications system, which consists of both satellites and earth stations. In the very near future NOTELSAT is to "be responsible for the design and implementation of telecommunications engineering experiments" on TELE-X. In addition, the company is to "be responsible for operation of the earth segment, including monitoring of traffic during the TELE-X program's experimental phase." If TELE-X after the experimental phase proceeds to preoperational or operational functioning, NOTELSAT--after negotiations with the purchasing company regarding terms--is to take over the TELE-X satellite with the earth segment which goes with it at the market value applying, calculated according to their traffic value for NOTELSAT. The purchasing company is to be liquidated when NOTELSAT has taken over the ownership rights to the satellite and the earth segment--"but at the end of 1988 at the latest."

Future Cooperation

The future and more longterm duties of NOTELSAT are stated in the agreement as being "to be the executive organ in the future cooperation arrangement regarding operational telecommunications satellite projects." In addition, NOTELSAT is to "have a view toward, on commercial terms, placing telecommunications satellites and necessary satellite control at the disposal of these, as well as earth stations jointly owned by the telecommunications administrations for sending and receiving via these satellites." It says also that NOTELSAT in this connection is to "specify satellite systems and be responsible for buying up, as well as to have the ownership rights to, operational telecommunications satellites and those earth stations for telecommunications traffic which are jointly acquired by the telecommunications administrations."

On the whole, it can be said that the agreement entrusts NOTELSAT with essential and important functions for the development of the country's future telecommunications. It is accordingly up to the owners--the two telecommunications administrations--to utilize the opportunity to shape NOTELSAT into an effective shared resource.

5. The TELE-X Project

Seen from a telecommunications engineer's viewpoint, an investment of 1.25 billion (1982) kroner, buying abroad, would probably be able to yield an operational satellite system with two modern satellites and control stations for them for data and video transmission as well as broadcasting of TV and audio programs. Based on the participation in the existing satellite project, the competence in these two countries' telecommunications agencies is also relatively high. Therefore, the TELE-X project can certainly be regarded essentially as an industrial project.

In the sheerly telecommunications engineering domain, a large portion of the experimental results and building up of competence should have been able to occur in participation in other existing projects or similar projects which have preceded TELE-X.

If the Norwegian Telecommunications Agency's and NRK's [Norwegian Broadcasting System's] participation in the TELE-X project does not cost more than approximately the 10 million kroner which the Storting presupposed per institution over three years, then the project can all the same be interesting in the telecommunications engineering respect.

The Satellite Itself

The satellite weighs 2100 kg before launching. The distance between the extreme points of the fold-out solar cell panels is 19 meters. These panels can generate 3200 W of input. See fig 2 [photograph not reproduced].

The satellite stage consists mainly of the following:

A mechanical supporting structure, and
a power supply unit,
a thermal control system,
a remote control unit,
an attitude and orbit control system.

The communications section constitutes the pay load itself. It consists of the following:

Antennas,
three transponders for data/video transmission, and
three transponders for TV and audio broadcasting.

The three TV transponders can be used simultaneously, but then the capacity is limited to one data/video transponder. With just two TV transponders in operation, two data/video transponders can be used.

The main contractor for the satellite is the French Aerospatiale company on behalf of the European Satellite Consortium. SAAB-Scandia AB [Inc.] has the responsibility of co-contractor. L.M. Ericsson is the main contractor for the satellite's pay load in a joint venture with Thompson-CSF. Norwegian subcontractors are Kongsberg Våpenfabrikk A/S [Weapons Plant, Inc.], Raufoss Ammunisjonsfabrikker A/S [Ammunition Manufacturers, Inc.], Ticon Plast A/S [Plastics, Inc.] and Aksjeselskapet Mikroelektronikk [Microelectronics Corporation] (AME).

The Earth Segment

The project includes the following earth stations:

A control station in Kiruna is to perform telemetering and issue necessary commands to the satellite so that it will operate normally from its position in orbit.

A traffic control station in Nittedal is to control the assignment of satellite capacity for data/video transmissions.

An uplink station in Nittedal for sending up to three TV programs with sound up to the satellite.

A few other stations distributed over the two countries for carrying out measurements and various telecommunications engineering experiments.

L.M. Ericsson and Elektrisk Bureau A/S are acting in an agreed joint venture as main contractors for the earth segment. This joint venture also applies to technological development and marketing in the North and other countries.

The operations control center for the satellite system as a whole (OCC) is to be at NOTELSAT's headquarters in Stockholm.

The Experiments

Today greatest interest involves the experiments on television and audio program broadcasting. The TV transponders' output will be a whole 230 W, which will provide very good picture quality for direct TV reception with under 1-meter-diameter antennas, in the whole North. They want to study the effect of rain, snow and ice on earth station antennas. In addition, they are interested in correct data on how large the shadow regions will be in valleys and fjords.

An interesting part of the experiments concerns satellite broadcasting by a new TV system which has the designation "C/MAC-Packet." The system was first put into service in satellite transmission of TV programs to Svalbard (begun on 22 December 1984), but it is now to be used in direct broadcasting from a satellite to a new type of home receiver.

In addition, it is possible to imagine experiments in broadcasting high-definition TV (HDTV) and home facsimile transmission, as well as experiments with other new telecommunications engineering equipment.

Experiments will also be conducted with stationary and portable digital equipment for telephone and data communication between businesses and for video conferencing, as well as the transmission of pictures from special occasions, like sports events, etc.

6. New Possibilities in The Telecommunications Satellite Field

The Satellites' Merits

As one understands them, TELE-X and future operational telecommunications satellite systems will provide a number of new opportunities. Because of the distinctive nature of satellites, they are especially suited for communications over great distances, for example, for traffic between continents and where it is otherwise difficult to establish communications. We have examples of the latter in communications with and TV transmission to the oil industry in the

North Sea, where there will soon be eight earth stations. It is the same with communications with Svalbard. Techically, it will also be possible to establish telecommunications and TV broadcasting via satellite to Bjørnøya [Bear Island], Jan-Mayen and Hopen, but the costs will be relatively high. A less expensive partial solution for TV consists in direct broadcasting by satellite so it will be able to be received through the TELE-X and other DBS satellites with higher transmission power. Telephone and data communications with such smaller places can theoretically be obtained more reasonably via the INMARSAT system. But, legally speaking, this satellite system is only for communications to and from ships or between ships. The limited capacity the system has today is therefore essentially reserved for these purposes. In this connection, it is possible to point to INTELSAT's new VISTA service, which aims at bringing national and international services to remote areas.

One other merit of satellites is broadcasting to or receiving from a great number of stations within a defined service area. An example of transmission of this sort is direct broadcasting from a satellite. With a relatively high transmitter power of 100 to 200 W it is possible to use small and inexpensive receiving equipment (1-meter-diameter antennas and a receiver noise factor of about 4 dB).

Theoretically, there is also a big future in the use of satellites in a mobile telephone system. But a practical and costwise acceptable system will not be available before a united group of large antennas can be established in space (high antenna gain = smaller and less expensive mobile sets), as well as before a signaling and switching system can be established which can handle a very large number of mobile units in a larger number of service areas.

What TELE-X Will Bring

Besides direct TV broadcasting--which is discussed above--it is also expected that TELE-X will be able to contribute to the following switched data services:

Business internal communications.
Electronic mail.
High-speed facsimile transmission.
Communication between computers.
Updating of data bases.
Data base search.
Distribution of natural resources photographs and meteorological photographs.
Remote printing of newspapers.

In the area of video services the following are foreseen:

Video conferencing.
Video telephone.
Tele-instruction.
Telemedicine.
Transmissions from major occasions.
Video distribution (hotel TV, etc.).

For programming companies there will also be opportunities for the collection of program material from stationary and mobile outside stations.

7. The Future in the North

To what extent NOTELSAT will come to solve future problems for telecommunications users in the North depends strongly on the political decisions which can be made; among other things, as a result of the NORDSAT report. The question of a joint Nordic effort for the distribution of television is of very great importance.

All the same it must not be overlooked that NOTELSAT in any case was founded on a relatively detailed government agreement worked out between Norway and Sweden. Here the two telecommunications agencies have a flexible tool to solve most common telecommunications satellite problems with. The possibilities exist for expansion to include the other Nordic countries.

However, it has proven difficult to get Norwegian personnel to move to Stockholm to work at NOTELSAT. Such a feeble Norwegian commitment to the operation can result in dissolution of the company, especially if TELE-X should fail in the launching phase.

If the two telecommunications agencies want to utilize the big opportunities they now have in NOTELSAT for having their common objectives realized in the telecommunications satellite field, then they ought to provide an organization and practical plan which ensures a commitment from both sides. A possible solution is to establish branch headquarters in Oslo.

8831
CSO: 5500/2635

NORDIC COUNTRIES SET UP WORLD'S FIRST INTERNATIONAL TEXT TV NET

Helsinki HUFVUDSTADSBLADET in Swedish 1 Feb 86 p 9

[Article: "Nordic Text TV Cooperation"]

[Text] As the first countries in the world, Sweden, Finland, and Denmark will begin an exchange of domestic news on Wednesday 12 February. Each country will present the "best" news from the other countries in the original langauge. Sweden will have a central text-TV computer that will receive the news by way of the telecommunications network.

At 1730 on Monday through Friday, anyone with a text-TV set will be able to see the best news from the various countries in the original language.

The pages of news will be transmitted until 1730 the next day. The number of news pages and the number of exchanges each day will probably increase in the relatively near future.

Norway will not join the network until next fall. The Norwegians have a different type of computer and must first obtain an interface for the different computer systems. So far, Iceland has no text-TV.

Editor in chief Leena Maija Tuominen of the Finnish Broadcasting Company said on Friday that Finland would begin by sending five Swedish and five Danish local news items at 1800. If the news is of particular interest it will also be translated into Finnish.

There are now 135,000 text-TV sets in Finland.

There are presently about 0.5 million text-TV sets in Sweden. If it is assumed that 2.5 people have access to each set, then about 1.2 million people can watch text-TV in Sweden.

9336
CSO: 5500/2623

FINLAND

TELENOKIA, SIEMENS TO PROVIDE DIGITAL PHONE SYSTEM FOR HELSINKI

Helsinki HUFVUDSTADSBLADET in Swedish 1 Feb 86 p 7

[Article: "Telephone Net Digitalized"]

[Text] The Helsinki Telephone Company will modernize its old telephone exchanges more rapidly than initially planned. The new, faster timetable will mean that the region served by the company will have 190,000 digitalized telephones by the end of the year 1990. This amounts to about one third of the telephones in this network.

The investment program will cost about 200 million markkas. The telephone company will purchase half of the exchange equipment from Telenokia and half from Siemens.

The new technology means that customers will enjoy better sound quality, bills will be more detailed, and connections will be made more rapidly.

At present, about 600,000 telephones are included in the operating area of the Helsinki Telephone Company.

9336
CSO: 5500/2623

FRANCE

NEW PTT STRATEGY EMERGING AFTER REORGANIZATION

Paris ZERO UN INFORMATIQUE HEBDO in French 3 Feb 86 p 72

[Article by Philippe Moins: "Jean-Claude Hirel Is Appointed Mister Strategy"; first paragraph is ZERO UN INFORMATIQUE HEBDO introduction]

[Text] With the recent reorganization of the PTT [Post, Telephone & Telegraph], Jean-Claude Hirel regains the management of the data processing industry which he lost while director of DIELI [Management of the Electronics and Data Processing Industry]. Moreover, he will be "Mister Strategy" for all PTT activities.

For several weeks already, the PTT ministry has been distilling a perfume of reorganization. In December Louis Mexandeau spoke about the objectives of this change without revealing its specific contents: "It involves the improvement of the PTT's public services in order to respond to worldwide economic modifications created by American deregulation."

The general outline was to appear bit by bit with a distinction between industrial policy and the use of the telephone network serving as the keystone of the future structure. In short, business logic has been introduced into the almighty house of the PTT. Jean-Claude Hirel had already been hinted at as the possible key person in the situation who might be put in charge of a new general directorate for strategy.

Last week such hypotheses were confirmed with the publishing of a decree in the JOURNAL OFFICIEL regarding "the organization of the central PTT administration."

What kind of change will this PTT reorganization bring? Despite the wind of deregulation blowing over the American and Japanese telecommunications industry, it will certainly not lead to the destruction of the PTT monopoly, as is desired by many people.

As a pillar of reorganization, the completely new General Strategy Delegation --inspired and directed by Jean-Claude Hirel--was given a very full agenda. It will study and propose to the PTT minister strategic objectives for the ministry including international policy, and it will monitor their implementation. According to the JOURNAL OFFICIEL, "In this capacity, it will participate in elaboration and monitoring of the management charters of general directorates, subsidiaries, and institutions associated with them and the TDF [French Telecasting]."

Second, it will formulate and enforce general PTT regulatory principles and will suggest their adjustment, especially in response to the international situation.

Third, it will coordinate the PTT participation in national and international institutions, especially those responsible for regulation and technical standards.

Fourth, and this is a fundamental point, "it supervises industries in the telecommunications, data processing, and office automation sector." In this capacity, it will distribute capital contributions and subsidies within the budget determined by the financing law, and it will develop project contracts for companies in this sector, in collaboration with the General Directorate for Industry.

Thus, Jean-Claude Hirel has gone back to his origins by regaining the management of the data processing industry which he lost to the DGT [General Management of Telecommunications] in July 1983, when he took over the DIELI management. During the summer of 1983, Laurent Fabius and Louis Mexandeau, indeed, agreed to transfer management of the electronics sector from DIELI to the DGT. Within the DGT, the Directorate of Industrial and International Affairs (DAII) took charge of the data processing industry under the name of PIBI, "Industrial, Office Automation, and Data Processing Project."

Clean the slate...and return to square one? Not exactly, since the General Strategy Delegation will have to collaborate with various PTT directorates and also, for long-range program contracts, with the Ministry of Foreign Trade and Industrial Redeployment. Above all, the delegation will establish the basic direction of telecommunications policy.

For example, sooner or later it will have to make a decision on how to deal with those promoting value-added networks and on their share in the information transfer sector.

Finally, a second directorate is created by the PTT reorganization: the (Directorate of Common Affairs) which has "authority in the fields of personnel, company affairs, budget, accounting, and in motor vehicle maintenance." It unites the former directorate of personnel and company affairs and that of budget and accounting. "The objective of the reorganization is to manage personnel more flexibly, especially with regard to recruitment."

These two directorates, the Strategy Delegation (about 50 persons), on the one hand, and the (Directorate of Common Affairs), on the other, round out the PTT ministry's organizational scheme, alongside the DGT and the General Directorate of Post Offices.

[Box]

From TITN to PTT

Jean-Claude Hirel, founder of the TITN [New Techniques for Information Processing] Company, currently affiliated with the CGE [General Electric Company], is 49 years old. From December 1981 until August 1984, he was director of DIELI before being appointed principal private secretary for Louis Mexandeau a year and a half ago. Last Wednesday, the Council of Ministers appointed him to the post of General Delegate for Strategy in the PTT.

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CSO: 5500/A010

ITALY

TELECOMMUNICATIONS FIRMS INFORM PARLIAMENT OF PROSPECTS

Turin MEDIA DUEMILA in Italian No 1, Jan 86 pp 116-120

[Article: "34 Trillion Lire by 1990"]

[Text] Last year, according to figures supplied to the Parliamentary Transport Committee by IBM, the market for products for data processing and transmission, that is, products ranging from computers to telephone exchanges, reached 12,000 billion lire, representing approximately 1.9 percent of the GNP.

It can be estimated that of these 12 trillion lire, about one-fourth represented telecommunications equipment, from modems to telephone exchanges.

According to forecasts, this sum is destined to almost triple over the next 5 years, to reach 34 trillion lire. Overall growth in the sector is expected to be 18.9 percent per year. Growth will vary from one area to another. Whereas information systems hardware will grow at an average compound rate of almost 18 percent, software and data processing services will increase by about 23 percent, and telecommunications by 10.6 percent.

These figures are supported by the statistics submitted to the committee by the Ministry for Industry. On the basis of 1983 prices, this Ministry estimates a turnover in the Italian telecommunications and telematics sector of 30 trillion lire. "If we take the R&D costs as being equal to 10 percent of turnover," says Giovanni Scanagatta of the Ministry for Industry, "this gives us a figure of 3,000 billion lire in 1983 terms. If the state subsidizes 50 percent of the costs, then this represents a commitment of 1.5 trillion. These are the figures, and this is the scenario we are expecting to see. Despite all this, the Italian companies are not happy, and have put forward a series of complaints, worries and requirements to the members of the Transport Committee."

"Italian companies involved in the telematics sector need concrete programs with guaranteed financing which allow them to present competitive products which satisfy the new requirements of the customer on both the domestic and international markets." This is essentially the position that representatives of individual Italian companies and industrial organizations belonging to the sector set before the members of the Transport Committee, who have chosen a number of speakers for this part of the survey, while excluding bodies such as ANFoV (National Association of Suppliers of Video-information) who represent interests and demands which seem to have no future and no niche in the market if we look at the final picture.

The first person to speak was Mr Sergio Mercuri, head of the "Professional Electronics" group of ANIE (National Association of Electrical and Electronics Companies). One of the things requested by Mr Mercuri was that there should be an effective and well coordinated support policy for exports which would make it possible for this sector to be present on overseas markets on an equal footing with its international competitors.

The proposals put forward by companies producing information systems services for promoting development in this sector were illustrated for the Committee by a delegation from Anasin (National Association for Companies Producing Informatics Services). One of the things that the Anasin representatives would like to see is "the activity of public operating companies be oriented toward upgrading basic telecommunications services, rather than creating unnecessary competition for companies specializing in telematics services." In conclusion, Anasin proposes that "a radical review of the standards relating to telecommunications be implemented with utmost urgency in order to bring these standards into line with the evolution and potential of the techniques and requirements of business users."

The Olivetti delegation (Paolo Mancinelli, general secretary; Bruno Lamborghini, director for economic studies; Elserino Piol, general manager of the Secretariat and Development; Giovanni Cherubini, manager of the Rome office) expressed to the members of the committee their concerns regarding the unbalanced relationship existing in Italy between SIP [Italian Telephone Company] and manufacturers. What happens in practice is that the manufacturers are limited to supplying "parts" only, and always with the restrictions imposed by SIP. This is an anomalous situation which does not protect Italian manufacturers, contrary to the situation in other countries. The Olivetti representatives felt that this is a situation in which the conditions necessary for competitiveness are lacking and, as a result, the premises for the promotion and development of the market are also lacking. The situation is further aggravated by the monopoly of the Ministry of Posts and Telecommunications--SIP in the telecommunications sector, as this does not allow manufacturers to practice either scale works and services to third parties.

Olivetti feels, therefore, that there is an urgent need to liberalize the market. In any case, it is essential that standards and regulations guaranteeing the compatibility of public and private networks and services be respected. In effect, the regulations currently in force and which are defined as "punitive" should be overturned. Greater investments in telecommunications networks and infrastructures; a new strategic role for public administration and a more effective industrial policy; the formulation of European standards and product type approval--these represent some of the essential factors for the development of telematics pointed out by Domenico Faro and Marisa Bellisario, president and CEO of Italtel (Iri-Stet group).

According to Marisa Bellisario, in order to accelerate development in this sector there should be an increase in the investments already established under the terms of the 10-year plan for telecommunications. In parallel with this, state-of-the-art telecommunications networks must be installed throughout Italy. Only by doing this will the new telematics services become widespread and capable of providing an effective response to market requirements.

In this scenario, according to Ms Bellisario, a role of primary importance can be played by public administration which, working through a coordination organization, should promote projects for the introduction of telematics for social services (e.g. in the sectors of transport, ecology, education, health), systematically coordinating far-reaching and global solutions, avoiding the possibility of duplication and incompatibility of the various projects implemented by the different administrations.

Marisa Bellisario emphasized: "What we would like to see is a situation in which these administrations, in their choice of products and technology, give priority, where performance is equal, to Italian companies which are in a position to offer solutions that are more in keeping with the social and economic situation in our country. Moreover, choices of this kind would also make it possible to develop R&D activity in Italy, which is essential if we are to become more competitive on the international scene."

Coordination of Public Administration

An indirect answer to the comments made by Ms Bellisario was given by Mr Remo Gaspari, minister for public services. Mr Gaspari mentioned that the "structural rigidity" of public administration "has conditioned and fragmented the process of modernization, causing imbalances between the various branches of the administration without producing an overall improvement in the services commensurate with the financial commitment assumed." He went on to say that because of this, it has been necessary to implement a process of global coordination, which has been entrusted to the "Coordinating Committee for Data-Processing."

The activity of the committee is directed toward coordinating programs and training personnel. A general survey has been implemented of the information systems used by public administrations, as well as of ongoing projects, financial resources committed and the personnel working in the systems. The minister for public services added that the committee is implementing, by means of special seminars, "the first phase of a program for information systems literacy" for director generals of government bodies. Nonetheless, he observed, the coordination of programs and the training of personnel will be of little value unless action is taken to modify those procedures which, even if interpreted in the broadest sense, do not permit us to use data-processing as an integral part of the process rather than as a support tool. Mr Gaspari hopes that we do not have to "arrive in the year 2000 with problems of whether or not it is appropriate to use documents prepared on printers connected to data-processing systems." He also pointed out that today it is still not possible to issue certificates using terminals. Similarly, thousands of decrees, although prepared electronically, are still signed individually.

In order to overcome this problem, provisions are being examined "for the classification of administrations and their documentation, as well as for the coordination of the regulations governing the use of technology in the preparation of administrative documents."

Type-Approval of Telematics Products

Anyone who has only just stepped inside the world of telematics by introducing into his company "intelligent" exchanges, "fax systems" terminals and the like, has often had to come to terms with the chaotic situation in the sector of the homologation of telematics products if it is true that at times all that is needed is for the power to go off for the entire system to be put out of action, while the innocent user stands back to watch the ball game between the operating company (SIP) and the supplier of the telephone exchange or telecopier regarding their respective responsibilities.

There can be no doubt, therefore, that one of the obstacles blocking harmonious development of telematics is represented by the fact that type-approval criteria differ. This is an aspect which has been clearly stated by representatives of manufacturing companies.

According to Mr Presutti, chief executive officer of IBM Italy, the greater the differences from one country to another regarding technical requirements and type-approval procedures, the larger the investments needed to adapt individual products to the various standards, thus creating extra costs which inevitably come to be borne by the user.

In Europe, according to Marisa Bellisario, the CEO of Italtel, the best development strategy is to progressively standardize the telematics standards currently in force and to adopt unified regulations for type-approval of products as an effective means of industrial policy. Therefore, there is a broad consensus of opinion among manufacturing companies concerning the initiatives and recommendations of the European Committee regarding the standardization of procedures and the simplification of type-approval processes at a European level.

This has led to a widespread desire for the methods of certification and control accepted in one country to be formally recognized in all countries, as this represents the greatest contribution in real terms to making products more competitive. An alignment of type-approval procedures and requirements, say the companies, certainly encourages the adoption of international standards. However, IBM strongly maintained that the main function of the standards is to respond to the requirements of the final user. They must therefore be easy to understand and adopt. It must not be difficult to apply them and, finally, they must not represent an obstacle in the path of technological progress and the evolution of products and applications.

The Italian authorities responsible for this sector do not deny certain accusations leveled by industry. As Prof Diodato Gagliardi, director of the Higher Institute of Posts and Telecommunications admitted to the committee: "What has in fact happened in Italy is that we have adopted a fairly liberal policy toward type-approval, in the sense that much of the equipment coming from other countries is type-approved. However, this is something which is closely linked to the structural deficiencies in the sector manufacturing equipment of this kind in Italy, as these create gaps in the market for terminals which are filled by non-Italian products."

However, in order to avoid problems, what happens is that these telematics products are submitted for type-approval not by the foreign company, but by its Italian affiliate, which simply appropriates the foreign product and reproduces it in Italy. This has been happening for years now, Gagliardi admits, with hundreds of Canadian, French and German telephone exchanges. "This also applies to fax systems," reveals Gagliardi, "which all come from abroad, as there is not a single company in Italy which produces this kind of equipment. However, I feel that type-approval procedures in Italy are fairly strict. I also believe that the situation will gradually improve as Italian companies get to a stage where they can manufacture products of this kind."

The Plan for the Telecommunications Industry which was laid down in April of this year by the minister for industry, Renato Altissimo, shows two possible scenarios for the development of demand for telematics products, for the period 1985-1989, and for the entire decade 1985-1994 (in trillions of lire at 1983 prices).

5-Year Period 1985-1989	"Natural" Scenario	Scenario "With Incentives"	% Difference Between The Two Scenarios
Demand for private networks	1.12 trillion	1.51 trillion	+ 35%
Demand for terminals	3.1 "	5.2 "	+ 67%
Demand for computers and software for telematics applications	3.1 "	5.27 "	+ 70%
	7.32 trillion	11.98 trillion	+ 64%
10-Year Period 1985-1994			
Demand for private networks	2.320 trillion	3.26 trillion	+ 40%
Demand for terminals	6.6 "	13.2 "	+100%
Demand for computers and software for telematics applications	7.2 "	12.72 "	+ 77%
	16.120 trillion	29.18 trillion	+ 81%

The "natural" scenario shows an inertial projection of the current trend, whereas the scenario "with incentives" presupposes larger investments in network infrastructures, the promotion of applications of services, the creation of incentives for business users and programs for the introduction of data-processing systems in the public administration.

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ITALY

TV EXECUTIVE OPENS FRENCH STATION, EYES DBS MARKET

Milan STRATEGIA in Italian No 4, 1-15 Mar 86 pp 19-21

[Article by Jacques Levy: "La Cinq: An All-Italian Television"]

[Excerpts] On 20 February La Cinq started broadcasting. Almost unanimously, the French press expressed its indignation: "This is an Italian television."

It is difficult for the French to admit their lack of professionalism and means to launch a commercial television within record time. Not to mention that if Galliani [not further identified] had not used all his ability in the high frequency field, TDF (Telediffusion France), the public body which owns the relays, never would have been able to allow "La Cinq" to broadcast. It may sound unusual to the Italian public, which is used to receiving dozens of channels, but it looked like there were no frequencies available in France. In fact, they had to use the Telecom 1 satellite to send back the signal broadcast from paris to 16 large parabolic antennas; from there it is then forwarded to the relays. Indeed, only the stubborn will the Channel 5 master could succeed in this venture.

Now the most unpredictable obstacle is emerging: elections in March. Should the Right win, as appears possible, the newborn Cinq will see hard times.

Chirac, the Gaullist mayor of Paris, who last November was robbed of "his" Eiffel Tower by an amendment quickly approved by the Socialist majority in parliament, swore to get even. Not only will he make every effort to hand over the two public networks, or at least one, to private parties, in particular to his publisher friend, Hersant, but he will also try every possible way to withdraw the concession to Seydoux-Berlusconi television. "Mr Cinq" [Silvio Berlusconi, a leading Italian businessman and television station owner] declared: "It would be the largest bargain in my life." "La Cinq" could make more than 200 billion lire in the event of a unilateral cancellation of the concession contract. And he is right. In fact, more objective observers foresee an "agreement" between the two rivals, particularly if Chirac does not win by a landslide, as is possible.

Another appointment will be waiting for "La Cinq" immediately after summer when the first European direct broadcasting satellite--the French TDFL--should begin operation. Of the four available channels, one has already been granted to the Seydoux-Berlusconi group; one to the English publisher Robert

Maxwell, who owns, among other newspapers, the pro-Labour Daily Mirror; one to public television; and the last to Pierre Desgraupe (an old master of state television quality programs) who has prepared a project for a European-wide cultural channel. In contrast with satellites operating currently, DBS (Direct Broadcast Satellite) is not limited to sending a signal from one station to another. A small parabolic antenna (60 to 90 cm diameter) on a house balcony is large enough to receive it directly. Thanks to its power, it can, in fact, "reflect" dozens of television channels, matching four or more audio channels for each of them.

The satellites travel 36 thousand km over the equator along a geostationary orbit (that is, at the earth's speed) and can send back to broad areas signals broadcast to them from the central station without being disturbed by mountains and borders. In this way, these signals can be compared to sun rays. When the Geneva International Committee assigned each country its own orbital position in 1977, receiving systems were still rather primitive. Each country's DBS covered an earth area more or less restricted to national boundaries.

Now, however, new mini-parabolic antennas can capture DBS broadcast signals far beyond the foreseen limits. For example, TDFL will be received not only by 40 million French, but also by 250 million Europeans, from Britain to Spain, to a large portion of Italy and Germany. It should not be forgotten that small countries such as Luxembourg, Andorra, Lichtenstein, San Marino and Vatican City also have the right to their own place in the sky.

From over there, Berlusconi could easily elude the law which, in Italy, forbids him from transmitting via the airwaves; he could directly broadcast sports, information, and, of course, advertising spots through TDFL to a large part of Italian territory. The problem is something else: Who will pay the costs of such a project? In fact, launching a satellite, which requires a twin backup and another on earth ready to intervene in case of damage, is not a small business: between 300 and 500 billion lire every 7 years, that is, the DBS satellite's average lifespan.

However, it is, above all, the "software" involved that is of concern. A small program such as "La Cinq" costs not less than 300 billion lire and cannot carry the same programming already being broadcast via the airwaves. Who would be stimulated to buy a new parabolic antenna--which will cost at least 1 million lire until they are produced on a large scale--just to see the same programs already available every day? What must still be evaluated is how many advertising customers might be interested in a new channel able to broadcast their spots simultaneously all over Europe. How many of these potential DBS users would there be? And how many billions do they have? It is difficult to say. An approximate calculation is possible: Not more than 10 to 12 percent of the various European markets are presently engaged in investments with companies such as Coca Cola or Campari, which already are launching the same campaigns all over the Old Continent, if not all over the world.

If we estimate that 40,000 billion lire is spent for advertising every year in Europe and that 9-10,000 billion lire is invested in television, the accounting is easy. DBS may count on a 1,000 billion lire advertising market. The problem is that within a few years a hundred satellite channels will be available, more than a dozen of which are already booked. Should the pie in the sky not increase, it will not be enough to satisfy everybody. In any case, via the airwaves or via satellite plus cable, or via DBS, program production including advertising spots will inevitably be unified, also because it is the only possible way to compete with the U.S. giants. One thing is certain: However the future European television system evolves, Berlusconi will play a decisive role. If the new television and advertising Europe is born, it will have but one capital city: Milan.

12929/8612
CSO: 5500/M2601

NORWAY

DOMESTIC PRODUCER DELIVERS COUNTRY'S FIRST DIGITAL EXCHANGE

Oslo AFTENPOSTEN in Norwegian 7 Mar 86 p 39

[Article by Svein Nic. Norberg: "'A Milestone for the Telecommunications Agency': The First Digital Telephone Exchange Delivered"]

[Text] Trondheim, 6 March. "Today we have reached a milestone in what is popularly called the digitalization of the Norwegian telephone system. This milestone marks the fact that the Telecommunications Agency is starting its test program for the first digital telephone exchange supplied by Standard Telefon og Kabelfabrik [Standard Telephone and Cable Manufacturers]," Telecommunications Agency General Director Kjell Holler said when the Telecommunications Agency had its first digital telephone exchange delivered in Trondheim yesterday.

The delivery of this first digital telephone exchange also marks the beginning of high-technology development of the Norwegian telephone system, without parallel in the world, for that matter. In spite of a good half year delay at the supplier's end, General Director Kjell Holler expresses satisfaction over the fact that the Telecommunications Agency now has had delivered the first of a total of 240 self-contained digital telephone exchanges which are to be put in place around the country.

"This exchange, which has 7000 lines, will be a pilot exchange for the rest of the exchanges, with a total of 700,000 lines, which the Telecommunications Agency has ordered from Standard Telefon og Kabelfabrik, and will be the subject of extra-thorough studies. This system test will be carried out in order to study whether the prototype of the exchange has been designed to stand up to the Telecommunications Agency's specifications."

New Telecommunications Services

If problems do not arise during the testing of the digital exchange, it will be put into service in June and will replace the old telephone exchange which has been in use for parts of downtime Trondheim since 1946.

For the individual telephone customer this will mean that he will gain access to telecommunications services which were previously reserved for those who today have advanced house exchanges, including teleconferencing, direct dialing and telephone monitoring, while at the same time the waiting time for getting a free line will be eliminated.

To Be Completed in 1989

STK Administrative Director Fredrik Thoresen pointed out during the delivery of the digital exchange that this was an event which was contributing to making Norway one of the leading countries in the world in telecommunications.

Standard Telefon og Kabelfabrik's contract with the Telecommunications Agency--incidentally, the biggest industrial contract entered into in Norway outside the oil industry--encompasses a total of 700,000 lines and represents an annual investment for the Telecommunications Agency of about four billion kroner up to 1989.

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